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RACE IN HISTORY.

ONE of the grandest lessons which we acquire from experience is patience—ability to wait for the ripening of results in due season. Anthropologists must not be in a hurry. They are only laying the foundation, on which another and a later age may rear an appropriate superstructure. Their labours have not yet obtained due recognition even from men of science, and it is no wonder, therefore, that men of letters utterly ignore them. The scholar, as such, is of course a man of books. It is his vocation to study the *written* records of the past, to familiarise himself with the thoughts and the deeds of men, in so far as these have been recorded in literature and embodied in the volumes which constitute his library. With *facts* lying on the outside of books he has but little concern. Only yesterday he learned that archæology is an older leaf in history than the earliest inscribed chronicle. And he has yet to discover that anthropology underlies even archæology. As we have been accustomed to state the truth without reservation, let us say at once, that scholarship hitherto has been special to the point of narrowness. Familiar with the thought-forms of Europe and Western Asia, it has regarded these as an effective expression of the cultured mind of humanity. Only quite recently has it extended its views, by embracing the productions of the eastern Aryans, and in the striking affinity of their mythology and philosophy to those of Greece, has become dimly conscious of a racial element in this unmistakable relationship of peoples, so historically dissevered and so geographically isolated.

Even with this extension, however, the intellectual outlook of the scholar is still solely and essentially Caucasian. Of other modes and phases of mental existence, he was and is practically ignorant. Of the vast and venerable Mongolic civilisation of China and Japan, or the American culture of Peru and Mexico, he knows nothing, but that they differ in *degree* from the more effectually developed civilisation of Greece and Rome, of France and Britain. That they are fundamentally different in *kind* is a truth which has yet to dawn upon him. That they originate in alien elements and rest on another ethnic basis, and tend in their process of internal growth and unfolding to divergence from, rather than assimilation to, the forms of culture appropriate to a Caucasian area, is a discovery, which, however well known to men of science, is yet but very imperfectly appreciated by men of letters. In a sense, it has not yet found its way into *books*. It is a truth still on the outside of the literary arena.

The origin of these literary prejudices is not far to seek. It arises from the fact that the culture of the scholar is still mainly, and we may say essentially, dogmatic, not scientific. He is accustomed to accept assertions rather than seek for proofs, and prefers abiding by "the law and the testimony" to entering on a course of inquiry which may unsettle his established habits of thought, and land him in a region where his old masters would no longer serve as guides for his pilgrimage. He is still, in short, what he was originally, a man of authority and tradition, whose proofs must be written, and whose facts lie on his shelves. In saying this, do not let it be supposed that we undervalue scholarship, even as an instrument for progression. Of its invaluable labours in the sphere of criticism and exegesis it is impossible to speak too highly. Here it has done its work most nobly, and we were worse than ingrates did we fail to acknowledge our indebtedness to it in this department of inquiry. But it is still very imperfectly posted up in *facts*, and, what is of far more importance, very inadequately impressed with their value.

Now, do not let it be supposed that these remarks are dictated by a spirit of hostility to the literary profession. They are simply a statement of things, which every student may verify for himself. And our object in bringing these deficiencies of the scholar so prominently before the public, is not to injure him or diminish the range and force of his legitimate influence, but rather to induce him to supplement his present deficiencies by a more liberal and expansive course of study, calculated to raise him to a level with the foremost minds of the age in those other departments of culture which, though at present foreign, are by no means alien to his own.

Of all the provinces of scientific inquiry, that which should most

interest the scholar is undoubtedly anthropology. It has to do with his especial subject matter, man, not only in reference to his bodily qualities, but also his mental attributes. It endeavours to discover, not only the specialities of his physical structure, but also the characteristics of his intellectual constitution. It dwells not merely on the colour of his skin or the shape of his features, but on his habits and ideas, his manners and morals. It contemplates his religion, it investigates his philosophy, it observes his art and estimates his literature. No amount of culture, no advance in civilisation raises man above its investigations, and no degree of savageness sinks him below them. It is not contented with the present, but surveys the past, and this too with a gaze so piercing, with instruments so powerful, that in the area of time which it covers, the historic age sinks, as regards duration, into utter insignificance. The indifference of men of letters to ethnology, under its olden form, was perhaps not only explicable but justifiable; but we feel assured that the science of man under the grander and more expansive form which it has now assumed has only to realise, even in part, its lofty aspirations, and its universal recognition as one of the noblest of the sciences, cannot be much longer delayed.

We have been led into these remarks by seeing the grave misapprehensions into which even Buckle, under many aspects the most advanced mind yet devoted to the composition of history, has fallen, in consequence of his utter ignorance of anthropological facts. With immeasurably the highest conception yet developed of what the historian should be, he nobly endeavoured to realise this *beau idéal*, and in his own work to reach the lofty standard of perfection existing in his soul. To say that he has even remotely approached to this, in the merely introductory fragments, which are all that remain of his vast attempt, would be a piece of literary flattery that he would have been the first to disown. But with all their errors and shortcomings, and, as we have intimated, they are neither few nor small, these fragments have given a development to the historical idea, have furnished the historian of the future with a conception of his own proper attainments and of the work which he ought to accomplish, such as had never previously dawned on the human mind. It was, indeed, a conception that, in its entirety, could not by any possibility have been formed in a previous age, for it implies the mastery of subjects only now in the process of investigation.

The distinctive feature of Buckle as an historian is, indeed, his clear perception of the necessity for scientific as well as literary attainments on the part of him who would treat worthily the great theme of human progress. He had discovered the great truth that

history cannot be written solely from books, and, as a consequence, he distinctly saw that history is yet unwritten. He endeavoured in part to supply this want. That he failed was due in some measure to his premature and ever to be lamented death, which cut him off, if not in the very blossom of his youth, at least in the pride and strength of his intellectual manhood, with a life of magnificent preparation, apparently just ripening to its appropriate and abundant harvest. But he failed also from the narrowness of his views and the deficiency of his attainments, which would have rendered his success imperfect, even though he had reached to the longevity of Methuselah. This we know is saying much; for in condemning him we necessarily, by implication, pass sentence on all who are inferior to him in breadth of culture and expansiveness of outlook; and this, alas! does it not embrace all who have hitherto devoted themselves to the sublimest province of literary labour?

Buckle, as we have said, admitted the necessity of scientific knowledge to the historian, and nobly endeavoured to qualify himself for the composition of his great work by a considerable amount of discursive if not profound study in this direction. But unfortunately he did not know that anthropology is a science. Nay, falling into the error of John Stuart Mill, he roundly declares, in the second chapter of his first volume, that "original distinctions of race are altogether hypothetical." And then corroborates this random assertion by a quotation from the former's *Principles of Political Economy*, to the effect that "of all the vulgar modes of escaping from the consideration of the effect of social and moral influences on the human mind, the most vulgar is that of attributing the diversities of conduct and character to inherent natural differences." If this be not an instance of the blind leading the blind, and as an inevitable result, their tumbling into the ditch of error together, we have yet to learn where an apt illustration is to be found. Under such tutelage, at least in ethnic matters, it is no wonder that poor Buckle occasionally lost his way, confounding external influences with inherent capacity and susceptibility, the force of outward circumstances with the aptitude and receptivity of the race subjected to their action. As a result of this grave misconception, indeed, it is not too much to say that his whole work is based on an egregious error, on the stupendous fallacy of organic and intellectual equality, if not identity, among the various races of mankind. These, we admit, are rather bold and sweeping assertions, which should not be uttered without sufficient warrant, or accepted without adequate proof. And at the risk, therefore, of wearying our readers, we will enter somewhat more at length into this important subject, which has a direct bearing, as they cannot fail

to have observed, on the entire question of anthropology, its claims on the public and its position in science.

As of all the departments of literature, that of history would seem to be the one in which a knowledge of anthropology is the most necessary, so of all the provinces of history, that of civilisation would appear to be the one in which an acquaintance with the specialities of race is the most desirable. Without it, indeed, one half the elements of the problem under solution are excluded, namely, those which attach to the subject matter. Circumstances, whether of soil or climate, the aspects of nature or the supply of food, are the conditions of existence, but racial type is the material on which they have to act, and unless you understand the latter as well as the former, your explanations cannot fail to be imperfect and your hypotheses unsatisfactory. But of all this Buckle was so childishly ignorant, that he attributes everything to the circumstances and nothing to the type, and as an unavoidable result often contradicts himself and stultifies his own reasoning, to say nothing of his going directly in the face of well ascertained and universally admitted facts in connection with either the past or present state of the grander divisions of mankind. Thus, in treating of religion, he attributes diversities of faith wholly to the different aspects of nature, which tend to produce sentiments of fear in tropical countries, where she is overwhelmingly powerful, and feelings of love and admiration in the temperate zone, where her phenomena are more manageable and moderate in their character. And he ends by selecting "India and Greece as the terms of the comparison," that is, as the mythologic antitheses of each other. How a man, otherwise so well read, should have been ignorant of the fact that the mythology of the two countries is fundamentally identical; and that it originated in a comparatively northern and temperate region, it is now impossible to say. But independently of this obliviousness, to use the mildest possible phrase, of all that philological research has revealed of the connection between Greece and India, what must we think of an author professing to write the history of civilisation, embracing, of course, the development of the religious idea, while ignorant of the distinction between the pantheism of the Aryan and the monotheism of the Semitic races. To say nothing of the contrast between either of these exalted forms of belief and the Shamanism of the Mongol or the Fetishism of the Negro. The result of this blank ignorance of all the requisite facts for a due illustration of the subject is, as may be supposed, the twaddle of a schoolboy's essay rather than the gravity of an historian's dissertation.

He falls into a similar error in reference to civilisation generally;

that is, attributing it wholly to external circumstances. This, for instance, is the style in which he discourses on Egypt: "The civilisation of Egypt being, like that of India, *caused by the fertility of the soil*": and, from this hopeful commencement, proceeds in a like strain of confident superficiality to the termination of his flowing thesis, utterly ignorant of the almost fathomless depths over which he is so easily gliding. He begins with an assumption which, though based on tradition, is far from indisputable; namely, that civilisation *certainly* commenced within or near the tropics. Now, we know that the Aryan culture of India descended over the Himalayan mountains from the north-west; while there is ample monumental evidence that the civilisation of Egypt was *imported*, the builders even of its pyramids being acquainted, not only with the hewing of stone, but with many of the higher principles of architecture. Of the increasing archaeological evidence that the cyclopean architecture of Greece and Italy antedated the most ancient monuments of Egypt, it is obvious that Buckle was entirely ignorant. As we have said, it was a piece of information not yet fully embalmed in books—his books; and of course, as a necessary result of this ignorance, the suspicion had never dawned upon him, that the *beginnings* of Aryan culture are to be sought in Europe, not Asia, the Persian and Indian civilisation of the latter being, on this view, but a prehistoric colonial extension from the former.

But, granting that as a mere scholar he might be pardonably ignorant of such dawning archæologic and ethnic truths, we find him falling into other errors, no less fatal to his pretensions as the competent historian of civilisation. Thus, for example, he speaks without hesitancy of the Egyptian as an *African* civilisation. Now, of course, this is literally true, in a *geographical* sense. But in what other? Then he attributes the superiority of Egyptian over any other form of African civilisation, simply, as we have said, to the greater fertility of its soil. As if, throughout nearly the whole of Nigritia, there was any want of fertility. Why, speaking generally, it is the most barbarous parts of Africa, those south of the Sahara, that are naturally the most productive; just as, in South America, it is in the vast plains bordering on the Amazon and the Orinoco, where the prodigality of nature is almost overwhelming, that the Indian tribes are the lowest. If there had not been men in Egypt of a higher type than in Negro-land, the delta of the Nile would still have been a pestilential and unproductive swamp. Let it be distinctly understood, that it was not her soil, but the men who tilled it, that made Egypt a wonder among the nations. And let it also be fearlessly announced by anthropologists, that a purely Negroid type, though they had

possessed twenty Egypts for twice ten thousand years, would never have raised the magnificent piles of Luxor and Carnac, of Dendera and Edfou. Nor would they in a million of years, even under the most "favourable conditions", have realised the greatness of Memphis, or the grandeur of Thebes. Again, let it not be supposed that these assertions are too bold, or the preceding remarks too severe. The time has now assuredly come, when the accepted fallacies of a learned barbarism should succumb to the clear demonstrations of inductive science, and racial facts be championed to their appropriate place, as among the most important and reliable data upon which history, more especially that of the earlier ages, can be based.

Prejudices are most expensive guests. Their cost to all men is considerable; but to the intellectual labourer it is incalculable. They shut out the very light that he wants; they exclude the very knowledge of which he is in search; they render him blind to the objects of his fondest desire, and often incapacitate him for those very undertakings in which he would otherwise have achieved deserved success. It was thus with Buckle. It was his life's ambition to be an historian; and yet it was his perverse fate to despise and reject a branch of knowledge absolutely essential to the fulfilment of his desires. Thus, in the matter of Egyptian and Indian civilisation, his naturally fine insight, amounting often to the lightning intuition, or, as we say, "inspiration" of genius, enabled him to perceive their profound correlation; yet it never struck him to inquire why the influence of the former has left no perceptible trace on the Negro mind, while that of the latter has moulded and is moulding the religious faith of the Mongol to its profoundest depths, through Buddhism. He was satisfied with the ultimate fact, that Nigritia has retained its Fetishism almost intact to our own day, while Tartary, nearly to its remotest bounds, has almost wholly surrendered its primitive Shamanism in favour of the Aryan faith of its southern neighbours. And why was he, the professed historian of civilisation, so unwisely indifferent to such momentous facts in the progress of humanity? We answer, because he was ignorant of the grander capacity and greater receptivity of the Mongol as compared with the Negro, and by his foolishly nurtured prejudices, shut himself out from the very knowledge which would have furnished him with a key to this, and a thousand other historical phenomena, lying in his very path and waiting for a lucid explanation, had he been only competent to afford it.

In composing a history of civilisation, nominally in England, but really of the world, it assuredly behoved the historian to show why,

even in primitive times, the Caucasian nations and empires were contradistinguished from the Mongolian by a religion, philosophy, literature, art, and social constitution, all of an order so much higher, of a character so essentially superior, that it indicates their being the product of a nobler race. Why have the Mongolian empires of China and Japan accepted Buddhism from India, without producing the shadow of a shade of influence in return? And how is it that, in the prolonged period of their stagnant civilisation, they have never developed a poetic mythology like that of the Aryans, or a sublime monotheism like that of the Semites? And why have they not evolved that subtlety and profundity, that richness and diversity of thought, which characterised the schools of India three thousand years ago? And why is their literature still devoid of that refinement and elegance, that splendour and power, which, from the Ganges to the Thames, has for five thousand years attached to the productions of the Aryan race, whether composed in Sanscrit, Zend, Greek, Latin, Italian, Spanish, French, German, or English? And why is a Chinese pagoda the only response to the Ramesseion, the Parthenon, and St. Peter's? Why is chivalry utterly unknown in the farther East, and gallantry perfectly inconceivable? And the reply of the anthropologist is, that the Mongolic type is utterly incapable of producing these things, at the most only susceptible to their modified action, as alien influences received from without. And in confirmation of this inherent inferiority of the race, he points to the fact that when, in the grand tidal movements of humanity, the age of supremacy for the nervous and intellectual nations was drawing to a close, and it became necessary to recruit their physical exhaustion with a material baptism from the muscular types, and, as a consequence, Caucasian Asia and Eastern Europe were subjected to all the horrors and degradation of Mongolic invasion, the conquerors brought with them no new ideas, opened up no well-springs of thought, originated no faith, founded no philosophy, and inaugurated no art. Whether as Tartars or Turks, they came and they have remained as barbarians, gross, coarse, ignorant, and brutal, their only redeeming attributes being their courage as warriors, and their faith as disciples. Now a history of civilisation that ignores such momentous facts, that fails to grapple effectually with such stupendous problems in human destiny, may be very learnedly and very eloquently written, but for all the higher purposes of history is simply an instance of scholarly impertinence and pretentious pedantry, to which men of science are in no way called to submit, and against which, indeed, they are bound to enter their most vigorous protest.

In descending the stream of time Buckle ultimately lands his reader in modern Europe. But what shall we say of a history of civilisation in any modern European nation, that fails to take into account the ethnic results produced by the successive conquests and colonisation of the classic and Teutonic races, and their commingling with the Celtic tribes of the north-west. And what can we think of any history of modern times, whether it relate to Asia or Europe, that does not critically investigate the origin and influence of Christianity and Mohammedanism, and show that the former is a Semitic faith adapted to Europe by a large admixture of Aryan elements, which, in exact proportion as they qualified it for diffusion in the west, disqualified it for permanent action on the Semitic populations of the hither east, who accordingly developed the faith of Islam as a necessity of their higher nature. Again, let us not be afraid to announce that the man who shall attempt to write the history of religions without a reference to race, is, by this very omission, demonstrably disqualified for the task which he has so lightly undertaken. Let us state the fact as it is in nature, that the religion of a people, like their literature and art, must have a certain adaptation to their mental constitution; that when developed from within, it has this necessary congruity in virtue of its origin, and when imported from without, it must be modified into accordance with the racial tastes and tendencies of its converts.

As a further illustration of the truth of these remarks, we may cite the Reformation. Now, to attempt an exposition of this vast movement, either in its causes or its consequences, without a reference to race, is like endeavouring to find your way out of a labyrinth without the clue. In its essential character, it was an uprising of the Teutonic against the ecclesiastical predominance of the classic type. It was thought asserting its superiority to feeling. It was reason refusing obedience to faith. Hence, in its ultimates, as among the Scotch Presbyterians, it deprived worship of all its æsthetic accessories, and while stripping the priest of his vestments, cast the organ out of the church. In strict correspondence with this, it also reduced prayer and praise to the subordinate position of mere accessories to the great event of the day—the sermon—a theological prelection on points of doctrine rather than practice, addressed to the intellect rather than the sentiments. Hence it synchronised with the rise of the inductive philosophy, and has been followed by the inevitable emergence of the north-western nations into industrial wealth and political leadership. Now, to write long dissertations on such movements, without reference to race, is simply learned child's play, a phase of literary amusement to which the eloquent historian was, it

must be confessed, rather prone. To affirm that race had nothing to do with the reformation, and that Protestantism is wholly due to external agencies, and not at all to inherent proclivities, is to assert that the sun has not risen at midday—a fact patent to all men who will take off their spectacles and walk out of their libraries. These, however, were feats of which Buckle was apparently incapable. He could only see facts through books, and had no confidence in any conclusion unless *the premises* were in respectable print. He could not see that in its general geographical outline, Protestantism, after three centuries of conflict, still stands on the Teutonic area, leaving the Slavonic, Celtic, and classic races still for the most part in contented subjection to the traditional faith and ancient ritual. We of course do not mean to say literally that he would have denied the fact, but we do assert that, from his established habits of thought on historical subjects, he could not have applied it.

With such deficiencies as those which we have just indicated, it was of course unavoidable that Buckle, notwithstanding his fine talents, and, in many respects, superior attainments, should nevertheless commit many grave errors, and be guilty of many important and almost fatal omissions. Thus, in contrasting the intellectual development of England and France, he of course notices the predominant tendency to court patronage in the latter country. But he does not see, what every anthropologist knows, that this is a part of the Celtic tendency to clanship and chieftainship, whereby the individuality of the citizen is merged in the collective greatness of the nation, and the nation itself is most befittingly embodied in and represented by the monarch. "I am the state" was a sublime truth from the mouth of Louis XIV, but would have been arrant nonsense if uttered by the greatest of English kings. The two Napoleons are possible as the chieftains of Celtic Gaul, but either would have proved a miserable failure in Saxon England. The difference, both in character and destiny, between the wars of the Fronde and the Commonwealth, is to be traced to the same cause. Now an historian who writes learned twaddle about the surfaces of things,—and he who dwells wholly on circumstances can do little else,—may be very respectable just at present, but he holds his good name only on sufferance, and must be prepared to surrender his hardly earned reputation whenever the public shall have become sufficiently informed to see the inadequacy of his data, and, consequently, the imperfection of his method and the unsoundness of his conclusions.

It is needless to follow Buckle further, for his errors being those of principle, of course pervade his entire work. To do him justice, he is consistent in error. His second volume is but an expansion of his

first, and the remainder, had he lived to complete them, would but have served to yet more affectually embody his misconceptions. He did not see why the great revolution of the eighteenth century was more explosive in France than it could have been in Germany or Britain. Neither, in treating of Spain, had he apparently the smallest apprehension of an underlying Iberian element in the national character. He did not see that this, mingling at the great ethnic epochs with the Celtic, must produce a very different effect from the opposite commingling of the Teutonic element in Gaul. He saw the ferocity, and sternness, and bigotry of the Spanish character, but he never suspected the extent to which these darker features in the mental constitution of an otherwise noble and gallant people, were intensified by their Moorish baptisms, both historic and prehistoric. That Spain, ethnically, is an appanage of Africa as well as Europe, and that in the future, as in the past, she must be prepared occasionally for the tidal onset of Carthaginian and Saracen, with their barbarian hosts, is a fact which never occurred to his bookish mind, as a possible explanation of anything sinister, in the conquest of Peru or the establishment of the Inquisition. He could not be made to understand that an *auto da fé* was in a measure, the far off echo and result of the king of Dahome having encamped a little too long on the mountains of Castile, and so left a rather strong infusion of his sable atrocity in the veins of his otherwise gallant and noble subjects. Alas! these things, as we have said, are not yet in books, and we fear that unless anthropologists learn to write them, it will be a long time before they will find their way into "polite literature."

As compared with his predecessors, Buckle no doubt was distinguished by breadth of view and diversity of culture, yet his radical defects after all arise from his exclusiveness and want of grasp. His generalisations when really large, as in the case of those derived from statistics, have generally been made for him. He shows this narrowness or rather onesidedness of intellect in so readily accepting John Stuart Mill's absurd rejection of the racial element. But the same defect attaches to his mode of contemplating his favourite subject, namely, external circumstances. Thus, for example, he greatly underestimates the effect of geographical position in its relations to the great tidal movements of humanity. The fact that Europe is in the west, and is thus at present the recipient and embodiment of that mundane force, which for several thousand years has been sweeping from the Euphrates to the Thames, was but very imperfectly appreciated by him, though a cardinal fact from his stand-point and for his especial work. And as a part of this omission, he in his tremendous

philippics against the bigotry of Spain and Scotland, quite forgets the necessary influence of their geographical position as western termini, in virtue of which the one became an especial representative of the ecclesiastical despotism and æsthetic superstition of the Latin nations, while the other in an equal degree, and from correlative circumstances, became an embodiment of the hard, dry, logical doctrine, and unartistic ritual of the predominantly muscular Teutons. Although, as we have observed, the ardent devotee of circumstances, he could no more see this, than he could the corroborating if not corresponding ethnic facts, that the Celtiberian is the most fibrous, and the Caledonian the most osseous of their respective types.

Again, let it not be supposed, from the severity of these remarks, that the gravamen of our charge rests on Buckle individually. We have already said that his ideal of history was the highest yet developed. And if he died too early for the effective realisation of his sublime conceptions, the world will still ever remain his debtor for the thought. His failure, even in design, was perhaps greater than it needed to have been. We have endeavoured, from the ethnic stand-point, to indicate some of his perversities and deficiencies. But in a much larger measure it was inevitable. It is too early yet to write history. We have only a remote conception of what so vast an undertaking involves, and yet even for the fulfilment of this imperfect conception, we still lack some of the most important data. In writing of man, we cannot yet even approximately define his antiquity. We do not know how long he has been a dweller upon the earth. We cannot define the number of his species, or whether so contemplated, he is to be regarded as a unity or a multiplicity. We do not know where or through which of his varieties he began to be civilised. We cannot yet say with certainty whether the existing civilisation of Europe be the cycle or the epicycle, nor consequently whether the early monumental and historic culture of Asia was primal or colonial. We are only beginning to define the respective provinces of Semitic and Aryan thought in our existing systems of religion and philosophy. It is only yesterday we discovered the roots of Greek mythology in Sanscrit literature. To-morrow we may in a similar manner dissolve the present forms of Semitic tradition, in the intenser light of a profounder knowledge.

But why proceed with a list of our insufficiencies? No sane man now ever dreams of writing history otherwise than fragmentarily and tentatively, that is, as preparatory to the labours of his more fortunately situated successors. We know that the time for this great work has not yet quite come. Yet everywhere it seems to be ad-

mitted that the old system of merely inditing chronicles will no longer suffice. The more advanced minds have altogether outgrown this stage of intellectual development, and as a consequence demand wider views and a deeper insight in those who profess to be their literary instructors. It was in response to this demand, that Germany in the last generation produced the speculations of Schlegel, and that even practical England, as we have seen in our own day, brought forth the more elaborate work of Buckle. While as her contribution to this movement, America has sent us Draper's *Intellectual Development of Europe*, already noticed in these pages, and to which, therefore, our present reference must be both brief and partial. We have, indeed, introduced it simply as another illustration of that gradual development of the historical idea, to which we have already alluded. In fact, perhaps, from his medical education, and in part from the original constitution of his mind, Dr. Draper is more predominantly scientific than Buckle. The latter was essentially a literary man; his scientific knowledge, mostly acquired by reading, being simply an accessory. But with Dr. Draper it is the basis of his intellectual attainments, the fundamental principle which tends to shape all else into its own likeness. Hence his clear perception of the presence of law, and his unwavering reliance on the regularity and cyclical repetition of historic phenomena, ideas which generally appear vague and hypothetical, if not absolutely chimerical, to a mind cast in the purely literary mould. Yet, from want of detailed anthropological knowledge, he often applies his theories with a laxity, and therefore a facility, anything but safe and satisfactory.

Dr. Draper, in his first page, thus succinctly announces the principle which pervades his work. "Man is the archetype of society. Individual development is the model of social progress." Very grand ideas, no doubt, and affording especial scope for the analogical application of his anatomical and physiological knowledge, to say nothing of his skill in pathology! But while analogy, under due regulations and in the hands of a competent master, is one of the most powerful instruments yet known for the attainment of probability in reference to far-reaching and distant conclusions, being in very truth a royal road to many magnificent domains of thought and knowledge otherwise all but unapproachable, it is nevertheless a most dangerous path to the careless and incompetent, often landing them in bogs of absurdity and bottomless quagmires of folly, in place of the sublime and delectable mountains of everlasting truth. Analogy to be safe must be complete. Your parallel must be absolutely true, or the farther you pursue it the greater is your divergence. Thus, for example, in the instance before us, we may readily grant the truth of the funda-

mental proposition, that humanity is a collective organism—if the Doctor pleases, a physiological unity; but, if so, then it becomes at once obvious that the great races into which it is divided must discharge its various functions. Thus, if we grant that the Caucasian represents the nervous system in the mundane man, then the Mongol, by a similar process of reasoning, must be regarded as the muscular, and the Negro as the vascular portion of this vast organism. And if so, then, as their duties are diverse, their destiny must be different; and it is perfectly absurd to suppose that the fate of the one can prefigure that of either of the others. Granting the premises, there is no escape from this conclusion. But the premises are, in part at least, the Doctor's, and therefore we are not prepared to say that the conclusion is altogether ours. To express these ideas in the terms, and embody them in the thoughts most familiar to anthropologists, we may say that the Caucasian is the intellectual and *progressive* division of mankind, the only one apparently capable of *invention*, the others being only *receptive*, and that in an imperfect degree, of its grander discoveries and appliances. It is thus, as we have already remarked, that, even within the historical period, an Indian faith has overspread nearly the whole of Mongolia. While there is much in the essential character of Chinese civilisation to indicate that its germs at least were alien, and that it has been carefully transmitted from generation to generation as an educational heirloom rather than as an inherent proclivity, as an accepted gift rather than as a racial tendency. The Negro is below even this educational stand-point. He has *vegetated* on in contented barbarism from immemorial time, despite all that Egyptian, Carthaginian, and Roman civilisation could possibly accomplish for his elevation. Hence then the absurdity of the Doctor's conclusion, that the fate of these material and non-progressive races, can be held to prefigure that of the most progressive, even on its highest, if not its only true ethnic area.

The Chinese, after passing through a certain cycle have become utterly stagnant. Precisely so: this is exactly what might have been expected *à priori*. A naturally non-progressive, yet not wholly un-gifted race, receive a certain impulse from without. On this they advance until its original force is exhausted, and then, having no inherent intellectual vitality, they of necessity stand still—waiting for another impulse, which Europe is now about to give them. Dr. Draper seems utterly ignorant of the important ethnic fact, that the Mongol is a *child*, who may be taught much, but from whose feeble immaturity nothing great, commanding, or original can be rationally expected. The organisation of intellect in the Celestial Empire, is simply the arrangement of a great school, where good boys are re-

warded and bad ones are put into the corner. Life is a lesson, and every duty is a task. Every action is prescribed, and every thought is a repetition. Precept and example are the ruling forces. Individuality is ignored, and nothing is left to the spontaneity of the blindly submissive and uninquiring pupil. And this is so because it exactly responds to the ethnic immaturity of the race, of which another accompaniment is the infantile feebleness of the moral sentiment. Hence the very imperfect development of the religious idea, in which there is neither the sublime grandeur of Semitic monotheism, the sombre majesty of Scandinavian mythology, nor the idealistic beauty of Hellenic polytheism. Hence, also, the very imperfect organisation of society, where we find neither the castes of India nor the feudalism of mediæval Europe. Strictly speaking, aristocracy is unknown to the Mongol, as it is to the Negro. Among both there is the tendency, but in each it is germinal. The Chinaman has not a sufficiency of "blood" to effectually develop the idea of hereditary refinement, delicacy, sensibility, or spirit. His peasant may be a gentleman, because even his prince is devoid of the remotest suspicion of chivalry. He knows nothing above the scholar, because he sets no value upon honour, and, by a proclivity of his organisation, esteems astuteness of intellect as immeasurably superior to elevation of sentiment. His vaunted civilisation, when examined from our immeasurably higher stand-point, is a sham and a pretence; it leaves him gross, sensual, grovelling, a liar, a trickster, and a cheat.

Only the most profound ignorance of anthropology could have led Dr. Draper into the grievous error of supposing that, from the experiences of such a race, he could predict the future of the richly endowed and varied nations of modern Europe, where there is more diversity of character and more intellectual resources in a single province, than in the whole empire of China. Let it not be supposed, however, that in this matter we attach any especial blame to him. We have merely cited his work, and that of Buckle, as eminent instances of that vagueness of thought and looseness of phrase, which still permit otherwise well informed men to talk about "Asiatic races" and "Tropical empires", meaning thereby apparently anything from Egypt to Cathay; and whereby, with a facility of generalisation utterly incomprehensible to an F.A.S.L., they manage to group the Mongolic Burmese with the high cast Iranians of Persia, and to confound the Saracenic chivalry of the early caliphs with the troublesome Daimios of our faithful ally the Tycoon of Japan. Now we think it is nearly time that this should cease. Literature, more especially that department of it which pretends to the gravity of history, should

be above existing upon sufferance, and it is only thus that notions so confused and expressions so indefinite can continue to find a place in our libraries. For their other merits, which are neither few nor slight, we may continue to read works like those which we have just noticed, but we do so with a pain and a misgiving, which greatly detract from the pleasure we should otherwise experience. Nor will this dissatisfaction be long confined to the small circle who at present represent anthropological science. It cannot fail eventually to extend thence to the reading public, and whenever this is the case, the doom of such works is sealed; they will be dismissed with other superannuated lumber to that limbo of all the vanities, the shelves of our national museum, there to be preserved with other curiosities for the edification of a more enlightened posterity.

ON THE EARLY HISTORY OF MANKIND.*

A BOOK which contains a curious assemblage of well authenticated facts regarding mankind will always have an interest, from the pleasure which is taken universally in such matter. There is an eager curiosity felt in the description of strange and ancient races contained in the works of travellers and seamen; and to those who take a scientific interest in the human race the evidence is most important, and, in fact, their business is to turn it to account. But it is of greater importance and far more interesting when, besides being an assemblage of curious and interesting facts, it is an attempt to make use of these facts, to bring them under laws upon principles of inductive science, and to deduce from them in this way results of high importance in the history of civilisation.

There is, as Mr. Tylor truly says, a vast mass of material which has as yet been turned to small account; he sees, or thinks he sees, in this mass of matter regarding the various races of the world, ancient and modern, savage and civilised, certain laws which bear upon the movements of the human mind, not, as he takes care to say, shewing themselves in the higher states of civilisation, but almost uniform among the lower types.

* *Researches into the Early History of Mankind, and the Development of Civilisation.* By Edward Burnet Tylor, author of "*Mexico and the Mexicans*". Murray: 1865.

In order to establish such laws the widest induction is necessary, and after they are deduced from observation by what Dr. Whewell calls the "happy conjecture" of induction, they must be sternly compared again and again with the most various phenomena before they can be received as established, for we can never, in subjects of this kind, attain to the exactness of proof which is given by a long intermediate mathematical train of reasoning, the result of which can be compared again with facts, as in astronomy.

Having stated this broadly to gain caution against too ready an acceptance of a specious theory, and recollecting that to us, striving to gain some scientific advance, the facts, however curious, are nothing except so far as they support the theory or law advanced—let us see what the subjects are regarding which these laws are laid down.

Two subjects nearly allied occupy a considerable part of the work—*gesture language* and *picture writing*; and in regard to these the author attempts to show that the human mind, unassisted by the traditional language and writing, acts in very much the same way, wherever we have it inventing a *gesture*, or, as it is in fact, a *picture language*, or committing it to some substance instead of drawing upon the air, when it becomes a *picture writing*, such as we find upon many monuments of the Old and New World.

Another subject is *magic*, and the beliefs regarding it as existing in many widely different parts of the world; these beliefs Mr. Tylor considers to be the "result of one very simple mental law, arising from a condition of mind which we of the more advanced races have almost outgrown."

The third essay is upon "Myths of Observation," arising also, the author thinks, from a mental law by which a tale or story is invented to account for any remarkable appearances or phenomena, as when finding gigantic bones a savage tells a story of their having belonged to a giant race of former days. These, he thinks, are to be distinguished from the great bulk of the folk-lore of the world, "which is now being shown by the new school of comparative mythologists in Germany and England to have come into existence also in virtue of a general law, but a very different one."

Part of the book is occupied with an examination of the similarity of the changes undergone in tribes widely distant from each other in regard to implements of stone and metal, and in the primitive arts of life; while, finally, Mr. Tylor discusses the interesting problem "of the relation which progress has borne to decline in art and knowledge in the history of the world"—a problem, we may add, which is of high importance in regard to the discussions as to whether tribes of

low civilisation have fallen from a higher estate, or have not emerged from a condition of primitive and innate barbarism.

The sketch which we have given of the scope of the work will suffice to show that it will not be possible, within the limits of an article like the present, to discuss fairly the grounds upon which Mr. Tylor has laid down these laws; they will stand or fall, as they hold their place among the established theorems of anthropological science, and in fact as they are received among the greatest number of thinkers competent to have an opinion upon the subject.

We are met on the threshold of these investigations by a difficulty, which, as it is one of the fundamental ones in nearly all anthropological science, and is well expressed by the author, we shall give in his own words:—

“When similar arts, customs, or legends are found in several distant regions, among peoples not known to be of the same stock, how is this similarity to be accounted for? Sometimes it is to be ascribed to the like working of men’s minds under like conditions, and sometimes it is a proof of blood relationship or of intercourse, direct or indirect, between the races among whom it is found. In the one case it has no historical value whatever, while in the other it has this value in a high degree; and the ever recurring problem is how to distinguish between the two.”

As an instance on the one side, we have the beliefs which arise, or may arise, from a savage mistaking a subjective impression for an objective reality, as the appearances in dreams for spiritual beings, and so the sight of deceased relations as an intimation of the existence of a world beyond the grave. And on the other, the class of stories known as “Beast Fables” appearing in places widely separated, and Reynard the Fox and parts of the Arabian Nights appearing in South Africa, where they may be ascribed to Mussulman intercourse. That these stories can stand alone as evidence of common origin, or inoculation with common traditions, is questionable; Mr. Tylor has attempted to show that some of the stories in America which have analogues in Europe are evidence of some historical connection between the races inhabiting the two continents.

The instances of the working of the human mind in *gestures*, which are investigated with a view to comparing the natural results of the mind of man in such expression of thought under widely different circumstances, are—1. The language originated by deaf and dumb children or persons, and extensively developed in Germany and England; 2. The *gestures* used by the Indians of North and South America owing to the diversity of their dialects; 3. The *gestures* elaborated by the Cistercian monks, lists or dictionaries of which exist; 4. The *gestures* of the pantomimists of Greece and Rome; 5.

The few gesture signs in use among ourselves, which are as it were embalmed in our high state of civilisation; 6. Those in use generally in various nations as adjuncts of speech. The deaf-mutes invent signs almost invariably for themselves, and better than it can be done for them. Kruse, a deaf-mute himself, and teacher of deaf-mutes, and author of several works of no small ability, says as follows:—

“Thus, the deaf and dumb must have a language, without which no thought can be brought to pass. But here nature soon comes to his help; what strikes him most, or what makes a distinction to him between one thing and another, such distinctive signs of objects are at once signs by which he knows those objects, and knows them again: they become tokens of things; and whilst he silently elaborates the signs he has found for single objects, that is, whilst he describes their forms for himself in the air or imitates them in thought with hands, fingers, and gestures, he developes for himself suitable signs to represent ideas which serve him as a means of fixing ideas of different kinds in his mind and recalling them to his memory, and thus he makes himself a language, the so-called *gesture language* (*Geberden sprache*), and, with these few scanty and imperfect signs, a way for thought is already broken, and with his thought, as it now opens out, the language cultivates and forms itself further and further.”

Mr. Tylor has brought together a considerable body of evidence regarding this language of deaf-mutes. It is singular that, before its invention, Rabelais should have noticed these natural signs. When Panurge is going to try, by divination from signs, what his fortune will be in married life, Pantagruel thus counsels him:—
“Pourtant vous fault choisir ung mut sourd de nature, affin que ces gestes vous soyent naivement prophetiques, non fainctz, fardez, ne affectez.”

At Berlin 5000 are in use: a number of these are given; we cannot cite them here, as we can only give some instances in which they coincide with and illustrate the other kinds of gesture language. There is, however, sufficient evidence to show that the phenomena are alike in most cases; and a curious instance is given of a trial regarding the will of a deaf and dumb man, as late as Oct. 1, 1864, in which evidence was given of the signs by which he had indicated his wishes. In Berlin, divine service is performed in the gesture language.

Alexander von Humboldt has left on record his experiences of the gesture language among the Indians of Orinoco, and we have also the descriptions of Major Long and Captain Burton. From these writers it would appear that the “Indian pantomime and the gesture language of the deaf and dumb are but different dialects of the same language of nature.”

“In the Indian pantomime, actions and objects are expressed very much as a deaf-mute would show them. The action of beckoning

towards one's self represents to 'come'; darting the two first fingers from the eyes is to 'see'; describing in the air the form of the pipe and the curling smoke is to 'smoke'; thrusting the hand under the clothing of the left breast is to 'hide, put away, keep secret'; 'enough to eat,' shown by an imitation of eating, and the forefingers and thumb, forming a *c*, with the points towards the body, are raised up as far as the neck; 'fear,' by putting the hands to the lower ribs and showing how the heart flutters and seems to rise to the throat; 'book,' by holding the palms together before the face, opening and reading, quite in deaf and dumb fashion, and as the Moslem often do while they are reciting prayers and chapters from the Koran."

Among the signs which are notably alike, we find "brother" and "sister," according to Burton, putting two finger tips into the mouth, to shew that both fed from one breast; the deaf-mute holds out the forefingers of both hands together: this sign also belongs to the Cistercian monks.

Before following the author further in his comparison of the various forms of gestures, we may remark that it is obvious that much of the similarity of gesture arises out of the nature of things: and we think Mr. Tylor has not sufficiently considered this; that there is an innate power in the human animal of applying itself to the phenomena surrounding it and their relations, and by motions of the body conveying its impressions and wishes; and that this power, which, except in a very limited degree, is not shared by other animals, is independent of speech and the ideas conveyed by it, he seems to have made out pretty clearly. And perhaps his own theorem does not go beyond the assertion that there is a general similarity in the action of the mind in each case.

The signs of the Cistercians, which are to be found in two printed collections, are again very nearly what the deaf and dumb use, and singularly allied in character to the Indian pantomime.

The Roman pantomime appears to have been so perfect, from the accounts which remain, as to have rendered speech unnecessary—indeed, Cicero used to try with Roscius, the actor, which could best express a sentiment; and we gather from the writings of St. Augustine that the signs were taught, and that there existed written lists of them.

A very important branch of the subject consists in the gestures which are used throughout the world as accompaniments or explainers of speech, or independently of it, to express some particular feeling or passion. Some of them are no doubt very ancient, and have come down to us from times when thought was very simple, and generalisations and abstractions unknown, and metaphor was more in use than at present.

A curious instance is snapping the fingers, which the author thinks originally arose from flipping away some light and contemptible object with the thumb; and, as a proof of its antiquity, we have the mention of this gesture by Strabo. "At Anchiale," he writes, "Aristobulus says there is a monument to Sardanapalus, and a stone statue of him as if snapping his fingers, and this inscription in Assyrian letters:—'Sardanapalus, the son of Anacyndaraxes, built in one day Anchiale and Tarsus. Eat, drink, play; the rest is not worth that.'"

Shaking hands is not a gesture common to all mankind: the wilder tribes, when they have the custom, seem to have learnt it either from Europeans or Moslem. There seems some ground for supposing that it is an ancient Aryan custom, perhaps arising as a common custom from its ancient use in the marriage ceremony, the idea of binding being contained in the word *peace, pax, Sans. paç*.

The instances brought together of various gestures do not, though they are very interesting, appear to prove more than the universal tendency to a pantomimic expression of thought, as in certain cases the signs in use on the same occasion arise from opposite ideas regarding the subject; as, for instance, in prayer, one set of people hold their hands open to receive benefits, while others crouch down as in fear or humiliation: clearly in the last case the attitude is due to ideas of impurity and sinfulness in the sight of the deity. In fact, the author does not claim more for them, as he says (p. 53)—

"Enough has been said to show that gesture language is a natural mode of expression to mankind in general; moreover, this is true in a different sense to that in which we say that spoken language is common to mankind including under the word language many hundreds of mutually unintelligible tongues, for the gesture language is essentially one and the same in all countries."

Perhaps, as the author says, the best evidence of this unity is the fact that savages, on going to a deaf and dumb institution, have conversed with, and been understood by, the children. "A native of Hawaii was taken to an American institution, and began at once to talk in signs to the children, and to tell about his voyage, and the country he came from." And other similar cases are on record.

In a very interesting chapter on gesture language and word language, the author touches upon that deep mystery, the origin of speech, and he truly says—

"At the root of the problem of the origin of language lies the question why certain words were originally used to represent certain ideas or mental conditions, or whatever we may call them; the word may have been used for the idea because it had an evident fitness to be used rather than another word, or because some association of ideas,

which we cannot now trace, may have led to its choice. That the selection of words to express ideas was ever purely arbitrary, that is to say, such that it could have been consistent with its principle to exchange any two words, as we may exchange algebraic symbols, or to shake up a number of words in a bag and re-distribute them at random among the ideas they represented, is a supposition opposed to such knowledge as we have of the formation of language. And not in language only, but in the study of the whole range of art and belief among mankind, the principle is continually coming more and more clearly into view, that man has not only a definite reason, but very commonly an assignable one, for everything he does or believes."

If we look at the only part of language which is at all intelligible to us in its origin, namely, the class of words which are clearly imitative: they vary, not very differently from the deaf and dumb pantomime, by taking a rather different view of the thing imitated; but outside these words we have no indication of the reason why one word should express one thing, and one another; the explanations given of the origin of derived words have really very little bearing on the words in use.

The author, while he hesitates to touch so difficult a subject, thinks he sees in the two classes of Sanskrit root forms, as they are divided by Professor Max Müller, namely, the *predicative* roots, such as to *shine, extend*, and so forth, and the *demonstrative* roots, such as *here, there, this, that, thou, he*, a similarity to two classes of signs in the language of deaf-mutes. Some of the gestures are not unlike words in the Chinese which do duty in several capacities, as *ta*, meaning great, greatness, to make great, greatly; or they may be compared to the Sanscrit roots, as they would be if used without inflexions: in this particular our own language has become assimilated to the Chinese in using syntax in place of inflection, as when we say to *butter* bread, to *cudgel* a man, to *oil* machinery, where action and instrument are one word, these expressions are "concretisms," "*picture* words, or "gesture words," as much as the deaf and dumb man's one word for butter and buttering. The reference of substantives to verb roots in the Aryan tongues, is also in harmony with the gesture language, as when the *horse* is the *neigher*, *water* that which *waves, undulates*, the serpent the *creeper*; and as Kruse tells us that to the mute the bird is "what flies," the plant "what sprouts out of the earth."

We cannot in the confined space of this notice do more than indicate the course of the author's reflections and conclusions very cursorily; these coincidences between the universal speech of gesture and the ancient tongues are extremely interesting, and may be a clue to our gaining some insight into the formation of language.

There is a great mass of evidence, and one of great interest which

bears upon the existence of tribes whose language is very imperfect, even for the most ordinary requirements, without the use of signs. The Veddah tribes of Ceylon speak a dialect incomprehensible to the Cingalese; and even among themselves, their communications are gestures and guttural sounds, not a distinct or systematised language. The same may be said of the Tasmanians. Dr. Milligan speaks of "their use of signs to eke out the meaning of monosyllabic expressions." Captain Burton gives the same account of a tribe of North American Indians, the Arapapos.

"They possess a very scanty vocabulary, pronounced in a quasi-unintelligible way, can hardly converse with one another in the dark; to make a stranger understand them, they must always repair to the camp fire for pow-wow."

The effect of the evidence on this point is most important, as if it could be considered as proved that there really are people whose language is insufficient for their everyday life, "the fact would either," as the author says, "furnish the strongest case of degeneration known in the history of the human race, or would supply a telling argument in favour of the theory that the gesture language is the original utterance of mankind out of which speech has developed itself more or less fully among different tribes."

The evidence, however, he thinks insufficient; in many cases savages have been wrongly accused, and on nearer acquaintance they have been found to have more complete means of communication than seemed at first to be the case.

If *picture* writing be only a commemoration of *gesture* language, we have in the various monuments covered with such signs an ample field for investigation. Wilhelm Von Humboldt says that: "In fact, *gesture* destitute of sound is a species of writing;" there is certainly, as the author observes, a very close connection; and it is certainly very singular that the natives of America should be as great proficient in one as the other.

These pictures are substantially the same among very different tribes and races, and suggest the meaning by some characteristic strongly marked in each figure or emblem. Those of the American Indians, as far as we can gather from the instances given, are more of the nature of illustrations of poetry than composing anything of the nature of a language; that there would be a family likeness between the paintings or scratchings of savages we should expect, as all rude imitations of the common phenomena of life would be somewhat alike, and would resemble the drawings of children: an instance is, however, given on the authority of Mr. Catlin, of a chief known as the "Shawnee Prophet," who wrote on a stick a prayer in some kind

of hieroglyphic. There is undoubtedly much evidence to show that some kind of picture writing is prevalent in all quarters of the globe among savage tribes.

The likeness to children's drawing is, Mr. Tylor thinks, one of the same kind as the likeness in gesture among savages to the gestures of children who cannot speak; and that it betokens a certain law of the human mind, in fact, an expression of reason and the relation of things by rude representations of surrounding objects, and if his case may be considered as proved, generally it would be, perhaps, the best measure of the difference between the human race, however undeveloped or degraded, whichever we choose to consider it, and the inferior animals; we know of no race of animals, however intelligent, who have it in their power to deal with surrounding phenomena and their relations in this way; nor is there any instance of any creature not human having drawn a map, and yet this is one of the most universal powers among savage tribes.

The highest development of picture writing was among the Mexicans, and their drawings are well known from Alexander Von Humboldt's works, and the great collections by Lord Kingsborough.

The great bulk of them are pictorial representations of "migrations, wars, sacrifices, deities, arts, tributes," etc., but still not differing from the picture writing of mere savages; they have, however, the peculiarity of having a system of dates, which were pictures representing the remarkable dates upon a kind of hieroglyphic wheel: thus the year of the first arrival of Europeans was represented by a white swan spouting fire and smoke from its mouth. It is a remarkable fact that the Indians have been the best interpreters of the Mexican picture writings; and without their aid, we should have found their deciphering very difficult.

There does appear, however, to be a kind of system of phonetic characters, the discovery of which is due to M. Aubin. Humboldt and Clavigero have given painted symbols of names, as "knife snake" (the name of a king), a serpent with knives issuing from his back, but this is ordinary picture writing; there is, however, evidence of the existence of real phonetic signs. We give an instance given in regard to the writing of the name of the same king.

The name in Aztec is *Itz-co-atl*. In the Vergara codex the *Itz* is represented by a knife with blades of obsidian; but the *coatl*, which elsewhere is a snake, is here represented not by that animal, but by a compound sign, namely an earthen pot, *co*, with above it the sign for water, *a*, (*tl*): the name is not to be read "knife, kettle, water", but *Itz-co-atle* by sound—in fact, it is of the nature of a rebus. M. Aubin has worked out many of these phonetic symbols.

These phonetic symbols appear to have been of native origin, but were used by the Spanish missionaries, and they continued in use long after the Spanish possession, in legal documents regarding genealogy, inheritance of land, etc. Some of the instances the author gives are most curious, but we cannot dwell on them, though they may in the sequel prove to be most important aids in tracing the connection between speech and writing.

The mixture of pure pictures with phonetic picture symbols is observable in the Egyptian hieroglyphics; the former are not distinguishable from gesture or picture writings, while the latter are in fact an approach to the writings in use among us. Thus, the figure of a *strap*, the name of which is *m—s*, becomes a phonetic sign to write the sound *m—s* with (the *—* stands for some vowel which in the Coptic form is *ou*).

Some forms are held by Champollion to be pure consonants, which is plainly seen in the spelling of Ptolemy, Cleopatra, and other foreign names. Champollion, however, is held by some later Egyptologists to have gone too far in reducing phonetic characters to mere letters. Mr. Birch reads as *ka* and *pu* letters which Champollion gives as *k* and *p*, but the distinction is of small importance, as the vowels are apparently very indefinite and might be dropped out altogether.

The interest to us of the syllabic theory (which is not a new one) is that it gives us the course of development by which, for instance, a picture of a mouth at first meant *ro*, the name of mouth, and afterwards dropped the vowel, and became in fact a pictorial letter *r*. The Chinese appear also to have proceeded from picture writing to phonetic characters, their old pictures are still known as *ku-wän* (ancient pictures); these are rude representations not unlike the Mexican, of various objects in outline, *sun*, *moon*, *tortoise*, *fish*, etc., combined with pictorial symbols as *water* and *eye* for *tears*; but at present they have two kinds of signs, "one for *sound* and one for *sense*, called *hingshing* (pictures and sounds); in one of the two the transition from the picture of the object to the sound of its name has taken place, in the other it has not, but it is simply a picture, and its use (like the *determinative* in Egyptian hieroglyphics) is to define which of the meanings of the spoken word is to be taken. Thus, *chow* means ship, so a picture of a ship stands for the sound *chow*, but *chow* means several things, and to shew which is intended in any particular instance, a determinative key or sign is attached to it; thus the ship with the sign of water stands for *chow* 'ripple', with that of speech for *chow* 'loquacity'; that of fire for *chow* 'flickering of flame', and so on for 'waggon-pole', 'fluff', and several other things which have little in common but the name *chow*."

The necessity for this arises from the poverty in sounds of the Chinese language. Our own alphabet is believed to be directly derived from the Egyptian picture-writing turned into phonetic symbol, and we can trace it from the stage of pure pictures to that of pure letters. "The Coptic Christians still keep up," says the author, "in their churches, their sacred language, and the Coptic alphabet was formed by adding to the Greek alphabet certain new characters to express articulations not properly belonging to the Greek, four at least of them seem clearly to have been taken from the old hieroglyphics, and thus preserve an unbroken tradition from the period of picture-writing to that of the alphabet, and from times earlier than the building of the pyramids to the present day."

We have stated enough to shew the scope of this part of the author's work which, if it does not reach to the extent of demonstration, goes certainly a long way beyond conjecture and hypothesis.

According to Mr. Tylor the practices of sorcery in most savage nations and tribes may be nearly all explained by a child-like peculiarity of mind which confusing the subjective with the objective imagines that what affects an image called after a person, must affect that person, and that there is some connection given by the name, this confusion of the subjective with the objective is not confined to images, but we find the actual parts of the person, as the hair and nails, still supposed to form an integral part of their original possessor, with a sympathetic if not an actual connexion by means of which he may be assailed.

The savage is like a grown up child and uses images as a child does a doll to assist the operations of his mind. The tendency to idolatry in low races, may thus be interpreted, as the means by which the savage enables himself to grasp at vague ideas of higher beings—the making of idols belongs to a transition state, in which man is striving to grasp higher views of the Deity. The savage sees in the idol something which—

"His imagination can clothe with all the attributes of a being which he has never seen, but of whose existence and nature he judges by what he supposes to be its works; he can lodge it in the place of honour, cover it up in the most precious garments, propitiate it with offerings such as would be acceptable to himself. The Christian missionary goes among the heathen to teach the doctrines of a higher religion and to substitute for the crude superstition of the savage a belief in a God so far beyond human comprehension, that no definition of the Deity is possible to man beyond vague predication, as of infinite power, duration, knowledge, and goodness. It is, perhaps, not to be wondered at that the Missionary should see nothing in idol worship but hideous folly and wickedness, and should look upon an

idol as a special invention of the devil. He is strengthened moreover in such a view by the fact that by the operation of a certain law of the human mind, the idol which once served a definite and important purpose in the education of the human race has come to be confounded with the idea of which it is a symbol, and has thus become the parent of the grossest superstition and delusion. But the student who occupies himself in tracing the early stages of human civilisation can see in the rude image of the savage an important aid to early religious development, while it often happens that the missionary is as unable to appreciate the use and value of an idol as the grown up man is to realise the use of a doll to a child."

We have quoted this passage at length because we think that it expresses very well a source of difficulty which is much forgotten and overlooked in dealings with heathens. It explains why nations in a low state of civilisation cannot receive the abstractions which with us can be conveyed to the minds of children—and it does away much that is inexplicable in the early history of the world.

The confusion of the subjective with the objective, that is the transference of relations which exist between certain ideas or images in the mind of the person to the objects themselves, leads to gross superstition, the most notable examples of which are the attempts of wizards or witches to attack a person by means of something or other which has a subjective connexion with him. These practices are very widely spread, and existed among ourselves two centuries ago, indeed perhaps may be still believed in by part of our population. The practice of hanging in effigy no doubt had its rise in some belief of the kind, though now only a way of shewing indignation.

Another form which this tendency of the mind takes is the putting the symbol for the reality, supposing there is efficacy in swallowing the prescription as in China—or as among the Moslems drinking a verse of the Korân—the virtue of the idea being communicated to the inscription. Mr. Tylor has brought together a host of interesting examples proving in the most different ways this law of the human mind putting the letter for the spirit.

The superstitions about names are as curious as those which regard images or things in any way connected with a person, the law being that what affects the idea of a person or is in any way concerned in the mind of the savage with that person, is in fact absolutely part of him, and if you hurt that you will affect him—this refers to his hair, nails, dress—as Mr. Tylor shews even in England in the seventeenth century the glove of a certain Lord Henry was buried, that as it rotted his liver might waste away; it was held that through something connected with a person even remotely it would be possible to injure him, it is easy to deduce the fact that the name would be supposed essential to him and any dishonour to it would affect him.

Among the Algonquils the name is given in secret and the true one not divulged—the person going by some nickname; a Hindoo wife may never mention the name of her husband; this is also the case in Africa among the Barea. Among the most distant and varied races it is held wrong to mention the names of the dead.

The effect of using a name is shewn in the belief held by the Moslems that by using the "great name" of God (not Allah) supernatural power could be obtained; they believed that this great name was known only to prophets who could transport themselves from place to place and do miracles by it.

A similar belief was current at Rome, which led them to conceal the name of the tutelary deity, for divulging which Valerius Soranus suffered death; giving one's name to a person among the Mohawks and other tribes in America, was supposed to convey the qualities of the person; akin to this was perhaps the belief that certain names went with certain qualities. Possibly the giving of names implying qualities of mind or body, arose out of the belief that there was some essential oneness between the person and his name.

There is no doubt that cannibalism has arisen in some places from a belief that eating a man will give his qualities to the mind, perhaps by accumulation give a man the accumulated mental qualities of all those he has eaten. This is shewn in a different way with regard to animals, parts of animals of courage and ferocity being worn by the Red Indians to give those qualities; of the same nature were the mixtures made by magicians—thus too the Dyaks avoid eating the deer lest they should become timid. In South America, timid and slow animals are avoided as food, and they love the meat of tigers, stags, and boars. "An English merchant in Shanghae, at the time of the Taeping attack, met his Chinese servant carrying home a heart, and asked him what he had got there. He said it was the heart of a rebel, and that he was going to take it home and eat it to make him brave."

The feeling above-mentioned about names has led to all euphemisms; something which connects the name with the ideas contained in it and with the object of terror itself, bids the savage avoid mention of it, as ill omened or rather as connecting him with the sickness or evil spirit or malicious animal. We cannot do more than indicate in this notice the line of argument Mr. Tylor has pursued, and we must refer our readers to his book for the great body of interesting and forcible illustration which he has adduced from authentic sources to prove his case.

We shall now turn to a subject which is of very high interest to an anthropologist indeed, which touches the very essence or quick of the problem of civilisation. *Growth and decline of culture.* Have the

tribes of low civilisation sunk from a higher estate almost to the level of the beasts; or are they only at different stages upon one general road from primitive barbarity and destitution to the furthest point yet reached.

What evidence have we that is reliable of the early culture of the world, of inventions, and the gain to men of this or that product of nature. In the Mosaic account of man's origin, he appears after the fall in a state which we should call savage, clothed with skins and without any help in appropriating the gifts of earth, and we find allusions to this or that man as adding something in primeval times to the knowledge of nature and art; in other directions we find the history of invention in the form of a mythical tale ascribing to some god or demigod the invention of the first fire, the first boat or net. A curious instance in comparatively modern times of this tendency to deify superior knowledge, was the belief by Montezuma that Cortes was Quetzalcohuatlé come back to earth, the sun god, the founder of history, the lawgiver, the inventor of days and years, he who after giving them in days of old all these glorious truths was driven away as a fugitive, sailed away in his ship to carry his doctrines to other lands.

It is safer to doubt the direct histories of early civilisation, unless corroborated by other evidence; a curious instance of an assertion which is rendered probable by evidence bearing upon it from other quarters is the assertion by the Chinese that in the time of Yung-ching-che people used strings with knots instead of writing: this has been the case in other countries, the quipu of Peru being an elaborate apparatus by means of knots and strings for preserving facts and numbers, which is also akin to the tallies so lately used among ourselves. The quipus of Peru were most elaborate, their strings being of different colours; they were used as public registers, and by farmers for registering the numbers of their stock.

This mode of reckoning is found in the Eastern Archipelago and in Polynesia proper, and the quipus were very elaborate; they have been very generally superseded by the use of writing.

Some evidence of the early state of civilisation and its relation to later times may be derived from language—thus *calculation* plainly points to reckoning by *pebbles*, and is still applied to the science in its higher developments. Then, among the Mexicans *tell*, “stone”, remains as an integral part of their numerals: *centell*, “one stone”; *ontell*, “two stone”; *etelle*, “three stone”; meaning simply *one*, *two*, *three*. The Malays also say *sa watu*, “one stone”, for one; and the Javans on the same principle, *sawiji*, “one corn or seed”.

Ancient practices are often preserved by the ceremonies prescribed on solemn occasions, just as the stateliest dress is generally the oldest

fashioned; thus tallies were long kept up in the English Exchequer, their principle is still retained in the tearing of bankers' cheque books. So allied are we to rude times by hidden links. To detect those links is a great part of the inquiry into the true state of early civilisation, and the steps by which our present advance has been obtained.

The keeping in stone architecture designs belonging to wooden buildings shews the progress of the building art from wood to stone.

A curious instance of evidence of the derivation of an art is the use of a bellows of peculiar construction in Madagascar, the mode of smelting iron being the same as in Sumatra and unlike that of the Africans, from whom we might at first be led to suppose they would have learned the art.

Mr. Tylor justly remarks, however (p. 172):—

"Such coincidences" (he has been speaking of floating islands) "when found in distant regions, between whose inhabitants no intercourse is known to have taken place, are not to be lightly used as historical evidence of connexion. It is safest to ascribe them to independent invention, unless the coincidence passes the limits of ordinary probability. Ancient as the art of putting in false teeth is in the old world, it would scarcely be thought to affect the originality of the same practice in Quito, where a skeleton has been found with false teeth secured to the cheek bone with a gold wire; nor does the discovery in Egypt of mummies with teeth stopped with gold appear to have any historical connexion with the same contrivance among ourselves. Thus, too, the Australians were in the habit of cooking fish and pieces of meat in hot sand, each tied up in a piece of bark, and this is called *yudaru dookoon*, or 'tying up cookery,' but it does not follow that they had learnt from Europe the art of dressing fish *en papillote*."

Some inventions have gone everywhere with the name derived from their place of origin, as the *hamac*; but the evidence generally points to the invention in different places of similar instruments; or, as a late author has put it, man similarly placed appears to have used nearly the same means everywhere to overcome the difficulties of his situation. If a tribe are living among circumstances and with means at command utilised elsewhere by simple arts, we may decide the state in which they came there; thus the ignorance of metals and of boiling food by the South Sea Islanders, determines the low state of the Malay and Polynesian civilisation spread over the southern islands of the Pacific.

As an instance of decline in an art, Mr. Tylor gives irrigation, some of the great works having gone to utter ruin; he, perhaps, may not be aware that in some districts irrigation works, by the sediments they deposit, have ruined in time the lands they have for a time fertilised; this has been the case with the works of irrigation which the Mogul sovereigns erected in India. The cases where the higher races

have been overcome by more active and powerful ones are mostly known to us through history, but what is required is

"To find out how far a low race can lose its comparatively simple arts and knowledge, without these being superseded by something higher; in fact, how far such a race can suffer from decline in culture; this information is, however, very hard to get."

Dr. Livingstone speaks of the decline of some of the Bechuanas, the Bakalahari, but these have in fact been fighting to maintain their old habits under external hardships; there is some difficulty in proving that where there is an evident decline of culture, as in South America, the people there are the descendants of the people who worked at the remains we find. There is still want of evidence to show how far decline in civilisation has brought the lower tribes to the state in which we find them. Perhaps, in many cases, the weakest and least instructed have migrated, and coming upon infertile and inhospitable regions, have been forced into a fresh form of life; in times when writing was unknown, and when tradition by word of mouth was all in all, the death of a single man would alter the whole civilisation of a tribe; just as Professor Müller has observed, the mode of pronouncing of a patriarch might direct the course of a dialect, and in process of time of a language.

If we look at the backwoodsman, even when he has come of good descent, his whole being is influenced, and still more that of his children and grandchildren, by the circumstances of his life; this would be still more violently the case with a tribe small in number, and coming from a low civilisation, as the period of stone or bronze. Mr. Tylor thinks that the evidence on the subject points to a gradual advance on the part of all mankind, some tribes or nations advancing far beyond others, but no course of degeneration; the lowest races, as, for instance, the Australians, still having in a rude form the civilisation of the Malay and Polynesian Archipelago—that of the stone period; though, in certain places this has been improved upon, possibly through the special qualities or genius of some one or more of their inhabitants.

We cannot, having devoted so much space to what we consider the most important part of the work, discuss as we should like the chapters on the stone age, fire cooking, and vessels; these are, in fact, a discussion more in the concrete of the growth of culture.

After remarking upon the striking uniformity found to exist between the stone implements of different ages, even to the present time, Mr. Tylor says:

"How, then, is this remarkable uniformity to be explained? The principle that man does the same thing under the same circumstances

will account for much, but it is very doubtful whether it can be stretched far enough to account for even the greater proportion of the facts in question. The other side of the argument is, of course, that resemblance is due to connexion; and the truth is made up of the two, though in 'what proportion' we do not know. It may be that the problem is too obscure to be worked out alone; the uniformity of development in different regions of the stone age may some day be successfully brought in with other lines of argument, based on deep lying agreements of culture, which tend to centralise the early history of races of very unlike appearance, and living in widely distant ages and countries."

The object of Mr. Tylor's evidence is to prove the universality and ubiquity of the stone age, proofs of its existence being found in every great district of the world. This evidence is most curious and interesting, but we cannot dwell upon it. Instances of coincidences between widely different races in their modes of lighting fires and cooking are also interesting, and will be of use in future investigations, as also the remarkable customs which the author has collected, the most curious, perhaps, of which is the *couvade*, or substitution of the father for the mother, as the patient after the birth of a child; this *couvade*, or "hatching," exists or has existed among the Caribs in the West Indies, among the tribes in the east of South America, among the Arawaks of Surinam, the Abipones, the Dyaks of Borneo, Californians, and Chinese, and strangely enough, in Navarre and among the French Pyrenees; Legrand giving an old French fabliau, in which the king of Torelore is "au lit et en couche," when Aucassin arrives, and takes a stick from him, and makes him promise to abolish the custom in his realms; and the same author goes on to say that the same practice is said still to exist in some cantons of Béarn, where it is called *faire la couvade*.

The effect upon the author's mind of the body of evidence he has collected, appears to lead him to remark on the oneness of mental type in the races who in very different parts of the world have apparently invented independently very similar contrivances, rather than to deduce from similarity of work a distinct historical connection. "The state of things which is found is not, indeed, that one race does or knows exactly what another race does or knows, but that similar stages of development recur in different times and places."

There is one point which the author does not touch, and it is one which is likely to be puzzling in any theory formed upon the assumption that the differences between men in regard to cultivation depend upon or may have been caused by their different positions in relation to heat and cold, it is the existence of a uniform course of civilisation or rise from stone to metal in the most opposite climates—in Jutland,

and Italy, and the Indian seas. It is possible that in some places where we find traces of early works of man, the climate may have been very different to what it is now, but the present stone period does not allow the use of that evasion. It leads us to look upon improvements in civilisation as something arbitrary, due to some accident of genius or inspiration in some man or race of men, from whom, when once lit, the torch has been sped from hand to hand; this torchlight representing what we are apt to consider the world's real history, those who have it not groping their way on feebly to better things, while those who have it have leapt on exultingly by mightier and ever mightier leaps to unforeseen and un hoped for victories over the mysteries of nature.

RATIONALISM.*

MR. LECKY'S book on the *History of Rationalism* has very unfairly been compared to that of Buckle on the *History of Civilisation*. Unfairly to both parties. For in the latter we have the elaborate result of many years spent in digesting the most ample materials, and the enunciation of a leading principle, which, though by no means new, has never been applied before to the history of mankind with such industry or such convincing arguments for its substantial correctness. Our present subject is the performance of a comparatively young man, a series of detached essays, the aim and object of which it is almost impossible to discover, or perhaps we ought rather to say is so much overlaid with digressions, and so continually lost sight of by the author, that the reader may frequently well doubt whether his mind was really made up on the chief point in question, or whether he was only trying to find sufficient grounds for its enunciation.

The spirit of Rationalism is clearly enough defined in the introduction as—

“Not being any class of definite doctrines or criticisms, but rather a certain cast of thought, or bias of reasoning, which has during the last three centuries gained a marked ascendancy in Europe. It leads men on all occasions to subordinate dogmatic theology to the dictates of reason and of conscience, and as a necessary consequence, greatly to restrict its influence upon life. It predisposes men, in history, to attribute all kinds of phenomena to natural rather than miraculous causes; in theology, to esteem succeeding systems the expressions of

* *History of the Rise and Influence of the Spirit of Rationalism in Europe.* By W. E. H. Lecky, M.A. 2 vols. Longmans: 1865.

the wants and aspirations of that religious sentiment which is planted in all men; and in ethics, to regard as duties only those which conscience reveals to be such."

The design of giving the history of this spirit is a grand one, but as we have hinted, cannot be said to be more than attempted by Mr. Lecky.

Its effects in theology and in ethics are scarcely touched on; though the supplementary verifications of the doctrine afforded by an analysis of the results of modern political and industrial theories are carried out at some length. The religious theories of the author will satisfy neither those who look upon Christianity as of natural origin, and of imperfect ethics; nor those who consider some portion at all events of its dogmas as not less important than its precepts of universal benevolence.

That succeeding systems of religion have been developed from each other, and that the first system was fetishism is seen very clearly. The sign of the cross is a decided fetish.

"It was adopted not simply as a form of recognition or as a holy recollection, or even as a mark of reverence, but as a weapon of miraculous power; and the writings of the fathers are crowded with the prodigies it performed, and also with the many types and images that adumbrated its glory. So also with water; and it may be questioned whether that form of fetishism which rejoices in the use of amulets was ever more prominent in paganism than in mediæval Christianity."

The anthropomorphic phase of Christianity is then noted, but the chain of reasoning is completely broken by a learned dissertation on Christian and religious art, which at last gives place to what is the best and most interesting portion of the book, viz., an account of the antagonism of theology to science, the rise and fall of persecution, and the permanent establishment of the great principles of toleration.

Some notice has been taken in the *Memoirs of the Anthropological Society* of the anthropological views of the early Christians. The opinions there expressed of their extreme hostility to scientific truth receive here fresh confirmation. We read of an old monk named Cosmas, who lived in the reign of Justinian, and who from the time he had embraced a religious life devoted himself zealously to the relations between scripture and science. Though suffering from "a certain dryness both of the eyes and of the stomach," he resolved to employ the remainder of his life in the composition of a great work, which was not only to refute the 'anile fable' of the Antipodes, but was to form a complete system of the universe, based upon the teaching of revelation.

This precious composition was entitled *Topographia Christiana*,

and was defined as "a Christian topography of the universe, established by demonstrations from Divine Scripture, concerning which *it is not lawful for a Christian to doubt*. It is easy to imagine how, starting with this excellent axiom, the world is represented as a flat plane, of which the measurements are tolerably well known. Day and night are accounted for with equal sagacity. The sacred writers cannot, of course, be mistaken even in a word or letter, so that we need not be surprised to find, at last, that 'a Christian should not even speak of the Antipodes.'

"It is indeed marvellous that science should ever have revived amid the fearful obstacles theologians cast in her way. Together with a system of biblical interpretation so stringent, and at the same time so capricious, that it infallibly came into collision with every discovery that was not in accordance with the unaided judgment of the senses, and therefore with the familiar expressions of the Jewish writers, everything was done to cultivate a habit of thought the direct opposite of the habits of science. The constant exaltation of blind faith, the countless miracles, the childish legends, all produced a condition of besotted ignorance, of grovelling and trembling credulity that can scarcely be paralleled except among the most degraded barbarians. Innovation of every kind was regarded as a crime: superior knowledge excited only terror and suspicion. If it was shown in speculation, it was called heresy. If it was shown in the study of nature, it was called magic. The dignity of the Popedom was unable to save Gerbert from the reputation of a magician, and the magnificent labours of Roger Bacon were repaid by fourteen years imprisonment, and many others of less severe but unremitting persecution. A theological system lay like an incubus upon Christendom, and to its influence, more than to any other single cause, the universal paralysis is to be ascribed."

How the discovery of the New World and the labours of Copernicus and Galileo proved at last too strong for such deep-rooted superstition is an oft-told story, which will however bear to be read as here set forth even once more; but with all these merits we cannot think that Rationalism has altogether been properly represented. A history of Rationalism should comprise not only the verifications to be deduced from the irresistible logic of facts which have really taken place, but also a clear conception of the rules of evidence, which are always followed by mankind in matters as to which they have no prejudice, and which force themselves into notice occasionally even under the most disadvantageous circumstances. Isolated passages of considerable ability tantalise the reader, or shall we say give us hope that the writer may one day produce something worthy of his industry and his powers. To remind us what persecution has been is sometimes a good thing, but no one can expect to rival the wit or invectives of Voltaire. Still, when the Church would have us believe that it has

lost not only the power but the wish to coerce, it will bear reminding that if—

“‘See how these Christians love one another,’ was the just and striking exclamation of the heathen in the first century, ‘There are no wild beasts so ferocious as Christians who differ concerning their faith,’ was the equally striking and probably equally just exclamation of the heathen in the fourth century. And the reason of this difference is manifest. In the first century there was, properly speaking, scarcely any theology, no system of elaborate dogmas authoritatively imposed upon the conscience. But in the fourth century men were mainly occupied with innumerable subtle and minute questions of theology, to which they attributed a transcendent importance, and which in a great measure diverted their minds from moral considerations.

“That the Church of Rome has shed more innocent blood than any other institution that has ever existed among mankind, will be questioned by no Protestant who has a competent knowledge of history. . . . When we add together all these various forms of suffering, and estimate all their aggravations; when we think that the victims of these persecutions were usually men who were not only entirely guiltless, but who proved themselves by their very deaths to be endowed with most transcendent and heroic virtues, and when we still further consider that all this was but part of one vast conspiracy to check the development of the human mind, and to destroy that spirit of impartial and unrestricted inquiry which all modern researches prove to be the very first condition of progress as of truth; when we consider all these things, it can surely be no exaggeration to say that the Church of Rome has inflicted a greater amount of unmerited suffering than any other religion that has ever existed among mankind.

“Nor is this true only of the Roman Catholics. For when Descartes went to Holland, the reformed clergy directed against him all the force of their animosity, and the accusation by which they endeavoured to stir up the civil power against the author of the most sublime of all modern proofs of the existence of the Deity, was atheism. And some good people in Sweden desired to have Linnæus’s system of botany suppressed, because it was based upon the discovery of the sexes of the plants, and was therefore calculated to inflame the minds of youth.”

Persecution, however, was only one method by which Christian principles opposed themselves to the spirit of rationalism. Whether we read of the secularisation of politics, or of sound reasoning as applied to every form of industrialism, it is the clergy who stand forth as the inveterate enemies of either. The action of the church meets us at every page in these suggestive volumes; now as the judge, if not the creator, of magic and witchcraft; now the opponent of astronomy, of geology, and finally of anthropology; now, again, the director of every species of torture and persecution, its chief organs asserting that to see the tortures of the damned will be one of

the greatest pleasures of the elect, so that, according to an Anglican divine, "the hell described in the Gospel is not with the same particularity to be met with in any other religion that is or hath been in the whole world." And the same benevolent person, whose science appears to have been on a par with his religion, strenuously contended that the locality of this same hell was in the sun. The Christian doctrine of usury was not less hostile against enabling a man to do what he would with his own; and the orthodox doctrine that it was not necessary, or even proper, to keep faith with heretics, has perhaps been the most efficacious barrier to what is asserted to be one of the objects of Christianity, namely, peace and goodwill to all mankind.

It is customary now with a certain class of writers, who occupy towards morality much the same position that the "reconcilers" do towards science, to assert that all these exhibitions of hostility to the progress of mankind are quite alien to true Christianity, and should all be put down to the inevitable action of that powerful corporation which is called the Church. That the Church is an institution quite different from Christianity we are ready to admit; for it was in existence, in some shape or other, wherever a body of priests or intellectual rulers had at any time in the career of man come to a common understanding. Other men had laboured, and the Christians came into their labours. The temples and the temple lands were always, and not unjustly, the property of the dominant religion, whatever that might be. In every case it was the Church. But when the Church became Christian, it is idle to say that it did not represent the doctrines of that religion. To say that everything that it did that was right was Christian, and everything that was wrong was not Christian, is clearly absurd; for a similar process of reasoning, or rather assertion, can be made use of in defence of any superstition. To say that in essentials it has always been the same is only in a degree, not in kind, less offensive to facts; for still the question arises, what are its essentials? a question which has been very far from being answered always in the same way.

No doctrine can be more emphatically Christian than that of everlasting damnation. But even this has been recently pronounced as no longer legally the necessary teaching of English Christianity. The same authority would have full power to banish all the distinctive dogmas of our religion from the national church. And the national church it would still remain, even though it should cease to be Christian. But when the church ceases to be Christian, who can suppose that Christianity can survive that separation? When the revenues now applied to the service of dogma are handed over to those en-

gaged in the service and search of truth, wherever it is to be found, and whatever it may turn out to be, who imagines that the parting genius which will give place with sighing can long survive? or that the altar will be left standing when the priest ceases to live by it?

To assert that the church is of divine origin, and is destined to stand for ever, and yet to point out with most elaborate detail that it has always been the foremost enemy in opposition to truth, and has caused more bloodshed and injustice than any other power ever known, is only on a par with the reasoning which professes to believe that the Bible is inspired, and yet is invariably wrong whenever it attempts to explain or describe the operations of nature or the history of mankind. But to look upon the church as a great engine of education, the possession of which has always hitherto fallen into the hands of men who have never sought truth for its own sake, but only as the means of obtaining power, or at the very best of securing what is called salvation in another world, is compatible with looking upon it as a most powerful machine which has hitherto been always in the keeping of unworthy hands, and with a hope that the days are fast approaching when the secularisation of the church will form the last and most important chapter in the history of rationalism.

Not that such a result can be expected without a struggle. But up to the present moment, no one can tell on what point the final contest will take place. Could, indeed, the upholders of dogmatic Christianity be but compelled to join issue on some, or even one, definite question, the spirit of rationalism and of truth would know well how to arm its votaries for the battle. And as the science of mankind advances, such an issue must one day present itself. It was not till 400 years after his birth that the solemn question was put to the Roman senate, *Shall Christ or Jupiter be the god of the empire?* We all know what was then the verdict, assisted as it was by the presence of the emperor. A still more solemn question will shortly be brought before a still more august tribunal—Shall we be governed by the love of truth for its own sake, or by the doctrines of a failing superstition?

No one can doubt for a moment what answer that question, when once fairly put, will receive. But the important thing to bear in mind is, that it will not be a church which will support the cause of superstition, but a system of theology. A church is susceptible of every variation and of all possible development, but a theology which cannot stand the analysis of rationalism will endeavour to involve everything in its death-throes. We doubt not, however, that such egotistical efforts will be all in vain. The gradual abolition, not only of all religious tests, but of all inquiry into the religious opinions of others: the removal of every qualification, except those of willingness

and capacity from all offices now held by either the teacher or the priest up to that of the highest spiritual office in the land; the opening of our temples to the preaching of natural religion and the principles of morality as tested by experience; and the conversion of our museums and galleries into real temples of nature and of truth, will all precede the final decree which must for ever shut the mouth of self-seeking and exclusive superstition.

"Sooner or later the spirit of truth will be regarded in Christendom, as it was regarded by the philosophers of ancient Greece, as the loftiest form of virtue. A love of truth that seriously resolves to spare no prejudice and accord no favour, that prides itself on basing every conclusion on reason or conscience, and in rejecting every illegitimate influence, is not common in one sex, is almost unknown in the other, and is very far indeed from being the actuating spirit of all who boast most loudly of their freedom from prejudice. But there probably never before was a period, since the triumph of Christianity, when men were judged so little according to their belief, and when history, and even ecclesiastical history, was written with such earnest, such scrupulous impartiality. In the social sphere, although the amalgamation of different religious communities is still very imperfect, and although a change of religion by one member of a family not unfrequently produces a rupture, and causes a vast amount of the more petty forms of persecution, the improvement has been rapid and profound. . . . Already under the same influences, education at the universities has in a great measure lost its old exclusive character; and members of different creeds having been admitted within their pale, men are brought in contact with representatives of more than one class of opinions at a time when they are finally deciding what class of opinions they will embrace."

This is rather theory than what actually happens at college; but the next paragraphs are well worth meditation.

"There cannot, I think, be much doubt that the same movement must eventually modify profoundly the earlier stages of education. If our private judgment is the sole rule by which we should form our opinions, it is obviously the duty of the educator to render that judgment as powerful, and at the same time to preserve it as unbiased as possible. To impose an elaborate system of prejudices on the yet undeveloped mind, and to entwine those prejudices with all the most hallowed associations of childhood, is most certainly contrary to the spirit of the doctrine of private judgment.

"Of the few who have obtained a glimpse of higher things, a large proportion cannot endure a conflict to which old associations, and, above all, the old doctrine of the guilt of error, lends such a peculiar bitterness; they stifle the voice of reason, they turn away from the path of knowledge, they purchase peace at the expense of truth. This is, indeed, in our day, the most fatal of all the obstacles to inquiry. Dissolution must precede formation. There is a period in the history of the inquirer when old opinions have been shaken or

destroyed, and new opinions have not yet been formed, a period of doubt, of terror, and of darkness, when the voice of the dogmatist has not lost its power, and the phantoms of the past still hover over the mind. It is in this season of transition that the temptations to stifle reason possess a fearful power. It is when contrasting the tranquillity of past assurance with the feverish paroxysms that accompany inquiry, that the mind is most likely to abandon the path of truth. It is so much easier to assume than to prove; it is so much less painful to believe than to doubt; there is such a charm in the repose of prejudice, when no discordant voice jars upon the harmony of belief; there is such a thrilling pang when cherished dreams are scattered, and old creeds abandoned, that it is not surprising that men should close their eyes to the unwelcome light. Hence the tenacity exhibited by systems that have long since been disproved. Hence the oscillation and timidity that characterise the research of most, and the indifference to truth and the worship of expediency that cloud the fair promise of not a few. . . . He who, believing that the search for truth can never be offensive to the God of truth, pursues his way with an unswerving energy, may not unreasonably hope that he may assist others in their struggle towards the light, and may in some small degree contribute to that consummation when the professed belief shall have been adjusted to the requirements of the age, when the old tyranny shall have been broken, and the anarchy of transition shall have passed away."

PREHISTORIC ANNALS OF SCOTLAND.*

THE annals of a country are the facts which successive generations have left on record of their origin, growth, and progress. Setting aside all that is legendary and fabulous, we may state that the facts are strictly of two kinds; those which are written on perishable materials, and those which are engraved, as it were, on the more durable monuments of stone and metal, hidden it may be within the bosom of the earth. The former are easily decyphered, and the writers being contemporary with the events they record, their statements are accepted on authority, and justly assume the name of history; whilst the latter, obscure in language, dark in symbolism, and without an interpreter, stand outside the sacred pale, and are condemned to the regions of the unknown. But the advance of science, continually enlarging the bounds of knowledge, reclaims from time to time portions of this *terra incognita*, and raises thereupon structures which history

* Prehistoric Annals of Scotland. By Daniel Wilson, LL.D. 2 vols. 2nd edition. Plates and Woodcuts. Macmillan: 1865.

may consecrate for her uses. Thus by the labours of a Young, a Champollion, a Rawlinson, have the monuments of Egypt and Persia been made to speak an intelligible language, and give evidence of facts that had lain for ages shrouded in mystery; the geologist has unsealed the pages of the great book of nature, and interpreted those mysterious symbols which tell of mighty wonders undreamed of by a former age; and the archæologist, although his pursuits have often met with discouragement and contempt, strives to penetrate the obscurity of time, and discover the secret links that connect the present with the past. Imbued with this spirit, Professor Wilson approaches the "*Prehistoric Annals of Scotland*," endeavouring to effect for her what the researches of Eschricht, Nilsson, Retzius, and others, have done for Scandinavia; by a patient and rigorous investigation of the traces of her primitive inhabitants, to establish her anthropology on a basis of pure induction. The result is fatal to some of the theories and opinions that had held orthodox sway in the archæological world; for it is shown that the Celtæ were not the sole primitive colonists of Britain, but were preceded by two or three human stratifications, whose existence, truly prehistoric in relation to contemporary evidence, may yet be attested by the memorials that are hoarded in her faithful soil. In the classification of his subjects, the author adopts the system of Thomsen in dividing the primæval æra into the stone, bronze, and iron periods; more applicable, perhaps, to Northern than British antiquities, still with a due regard to cautious application and necessary modification, affording the best clue to chronological arrangement of any yet proposed.

The earliest indications of the existence of man are found in connexion with fossil remains of animals whose forms belong to an extinct fauna; like them, he appears to belong to a palæozoic era, the date of which is at present conjectural, but is vastly beyond that which is currently assigned to the human genesis. Geologists refer us to postpliocene strata, and the author candidly confesses that "estimations formed as to the succession of races, the progress of arts, and the duration of time, since man's presence in Scotland, which were advanced as deductions from imperfect evidence, in the former edition of this work, have already become obsolete in the view of interpretations based on geological calculations of the apparent lapse of time." The picture drawn by him of the condition of the country at the era of its primeval occupation is as follows:

"A continuous range of enormous forests covered nearly the whole face of the country. Vast herds of wild cattle, of gigantic proportions and fierce aspect, roamed through the chase; while its thickets and caves were occupied by carnivora preying on the herbivorous animals,

and little likely to hold in dread the armed savage who intruded on their lair. . . Upon this singular arena archæology informs us that the primeval Briton entered, unprovided with any of those appliances with which the arts of civilisation arm man against such obstacles. *Intellectually*, he appears to have been in nearly the lowest stage to which an intelligent being can sink. . *Morally*, he was the slave of superstitions. . . *Physically*, he differed little in stature from the modern inheritors of the same soil. . . His cerebral development was poor," etc.

Very remote traces of the aboriginal inhabitant of Scotland are seen in the canoes and boats hollowed out of the trunk of an oak, many of which have been brought to light in various lochs; in the Carse of Falkirk; and particularly during the process of reclaiming the Blair-Drummond moss, where cetacean remains with rude harpoons of deer's horn, an oaken quern, and flint arrow heads, were found at a level of fully twenty feet above the highest tide level of the Forth; manifestly showing that great geological changes must have taken place, and an immense interval of time elapsed, since those deposits were made. There was "the slow silting up of the estuary preceding or accompanying the upheaval of the original bed of the sea, with the imbedded skeletons of *Balæna*, and the evidence of the contemporaneous presence of man; nor was it till the bed of the ancient estuary had been spread out as carse land, channelled by the winding Forth, that the Roman legionaries left their footprints on its soil."

Scotland is rich in tumuli, some of which differ from those met with in England; the most numerous are the stone cairns which often enclose megalithic cists and galleries, similar to those of the chambered barrows, which are the most primitive, it would seem, of all the modes of sepulture. Then there is the cromlech with its Druid altar, fancifully so called; and simple inhumation without a superimposed mound. The practice of cremation and urn-burial was probably not introduced until the end of the stone period, but this is a point for further elucidation. With regard to cromlechs, the author observes, "We have no evidence that these are Celtic monuments; the tendency of present researches rather leads to the conclusion that they are not, but that they are the work of an elder race, of whose language we have little reason to believe any relic has survived to our day." Changes in sepulchral rites are most probably connected with changes of population. The dwelling places of this primitive people afford further evidence of the remoteness of the period in which they lived. Some of these, now consisting merely of rough oval pavings of stone, are found beneath eight or ten feet of moss resting on alluvium of gravel and sand, and seemingly "point to an era greatly more remote than that of the Sicilian historian or the Roman Cæsar." The most

singular and interesting class of objects of this kind is the "Wheems," subterranean dwellings or earth houses, from the Gaelic *uamha*, a cave, which are found in various parts of the Highlands, and are almost as numerous as the cairns. They are vaulted chambers constructed of large unhewn blocks of stone, which are made to overlap in an arched fashion to form the roof, like the cyclopean structures of Greece and temples of Mexico. They agree with the description Tacitus gives of the winter dwellings of the Germanic people. Within them are found ashes, bones, shells, querns, and sometimes stone celts and bronze weapons. In one remarkable instance in Orkney, implements of stone, horn, bone, bronze, and iron, were found associated with a large drinking cup made of a whale's vertebra! A singular fact connected with these cave dwellings is, that in general there is no indication whatever on the surface of the ground of what is underneath. In this particular they differ from what are termed Picts' houses, which are also chambered stone dwellings, but constructed on the level of the soil, yet so covered as to appear like a tumulus. There is a considerable resemblance between these curious structures and the chambered tumuli, yet sufficient differences between them to prove that they were intended for distinct purposes. These tumuli may be denominated catacombs. A remarkable one of the kind, discovered in the island of Barra, was found to consist of a central compartment and seven other distinct chambers, each separated by a large flagstone, and containing skeletons of men and dogs. The crania were described as presenting the Esquimaux type, short and broad.

Monoliths are seen in nearly every parish of Scotland, the original purpose of which is not very clear, but may have been stones of memorial or hoar stones. The *cat stones*, as they are called from the Gaelic *cath*, battle, probably mark the site of ancient battle fields. The *bauta-stein* of Norway and Denmark corresponds to them. Perforated monoliths are curious examples of this class. The stone of Odin near the Loch of Stennis was one to which a superstitious reverence clung even to comparatively modern times, for it was the custom for parties to ratify an agreement or contract by joining their hands through the perforation, and a contract so ratified was deemed inviolable, as made with Odin himself.

Second only to the temple of Avebury, in Wiltshire, are the stones of Stennis; circles of rude unhewn monoliths, popularly known as Druidical circles, a convenient phrase to cloak our ignorance of their real significance. But the groups of stones in Scotland are not all circular; there are also ovals, ellipses, semicircles, concentric and even cruciform groups. This variety of arrangement might imply

differences of creed, of age, or of purpose, on the part of their primitive builders. The cruciform group of Callernish in the Lewis seems to have been planned on astronomical principles, and it must have been at a very remote period, for late researches have determined that the stones had been founded on the boulder clay which is here covered by five or six feet of peat moss.*

The essential characteristics of the stone period, as the author observes, are embodied in its weapons and implements marking alike in material and workmanship the primitive state of man, whether existing in the Pacific Islands, or in the pre-historic era. Hoards of flint flakes are found deposited with skeletons and cinerary urns, the material of arrow-heads, lances, and knives. But the flint instruments of barrows may be distinguished from those of the drift. The latter are larger and ruder, "and suggest the idea of their fabrication by a race endowed with great physical strength, but of inferior and indeed infantine skill". The most peculiar stone instrument occasionally found in Scotland is what is termed a "flail-stone", a cylindrical stone, eight or nine inches in length and four inches in diameter, perforated at one end, by which it is supposed to have been fastened to a haft by means of a thong, like a flail. Some of the North American tribes used weapons somewhat similar. Gradations in skill may be traced in the fabrication of these rude instruments; the labour and ingenuity displayed in polishing and perforating some of them impress us greatly. But there are some spherical stones found that are not only polished but ornamented with various patterns. These may have possessed a talismanic virtue; such, indeed, was the reputed property of the Ardvoirlich stone in its silver setting, resorted to for the cure of disease in very recent years. Weapons of horn and bone are likewise found in cairns and barrows of this period.

Of domestic utensils: pateræ of stone and lamps, such as are still in use in the Feroe Islands are often found in the so-called Druidical circles in Scotland. Querns abound. Of personal ornaments: beads of jet and bituminous shale or cannel coal, of glass and pebble are common. From the previous data the author infers that "the first appearance of man as a colonist of the British Islands dates back to a period compared with which the earliest authentic data belong to recent times. History, indeed, only deals with the mysterious obscurities of Britain's dawn as the ante-Christian period draws to its close; and even then with such partial and uncertain glimpses, that far more is left to conjecture than all which it reveals. . . . We have an inter-

* It is a noteworthy fact, that many kinds of monuments of the Stone period found in Scotland, are common throughout the south of India on mountain ranges, and in wild and sequestered districts.

val . . . at the lowest computation exceeding by thousands of years Britain's chronicled era." But how and by whom was this vast interval peopled? We must interrogate the tomb, and there seek what information may be obtained in respect to its primitive and successive occupants. Will the fragile mouldering skull tell us of the warrior's race? What do we find? The most ancient type of skull disinterred from the sepulchral chambers of British tumuli is the elongated, kumbecephalic or boat-shaped skull. To this longheaded race succeeded apparently one of the short or brachycephalic form of skull. The former have been obtained from the megalithic chambered barrows and cairns of Scotland and long barrows of the southern counties of England to the borders of Scotland, indicating the extensive prevalence of a primitive indigenous race. In a few long barrows skulls of the latter have been found in association with those of the former type, as in Peru, and under circumstances suggestive of the idea of slaves or captives slain in funeral rites. The brachycephalic type becomes predominant in earthbarrows of the centuries immediately preceding the Romano-British era, in the northern and southern parts of England. This was an Allophylian, perhaps a Turanian race. But crania of the extant Celtic race in Wales, Ireland, and Scotland, differ from this the brachycephalic type of the ancient British. The true Celtic type is still a matter of doubt. The author is led to the conclusion that "the Celtæ of Britain intruded on the second Allophylian or brachycephalic race, long prior to the dawn of definite history, introducing among them the higher arts of the Aryan races." And so we arrive at the Archaic or bronze period. In the present state of our knowledge of the subject, it is an open question as to whether the use of metals and the art of metallurgy originated with the ancient British people, or whether they were of foreign introduction. There can be no doubt that Phœnicians and Greek colonists were attracted to this country by its mineral wealth at a very early period, and if they did not teach the ancient Briton the art of smelting and alloying his metals, at all events they taught him their value as articles of traffic. It seems probable that unaided reason may have directed the Briton to the use of gold and copper, which are found in a native state pure; but that the art of alloying copper with tin, and of smelting the iron ore were most probably learned from intercourse with a race more advanced in civilisation than himself. Ornaments and weapons of pure copper have been found in Scotland; a large copper axe of unusual form was found in 1822 at a depth of twenty-two feet in Ratho-bog, near Edinburgh. "It lay embedded at a depth of four feet in the blue clay, over which were deposited seven feet of sand and an accumulation of nine feet of moss." This seems to carry its anti-

quity back into a very remote era. Gold, which was formerly found more abundantly in Britain than it is now, may have also attracted the notice of the barbarian and yielded to his rude manipulation; nevertheless, the ring-money, armillæ, and torcs, being articles of skilled workmanship, point to a foreign source of supply, though this may apply with greater force to the early than the later period of the bronze era. A pair of armillæ of pure gold found in a rude urn in Banffshire, had been evidently made by simply hammering and bending into form, as they retain the rough marks of the tool upon them.

The transition from the stone to the bronze era was in all probability slow and gradual; but when the art of metallurgy was fully established, it would undoubtedly have the effect of producing a great social revolution, and change in the aspect of the country; but we believe that the primitive implements of the stone period were never entirely superseded and abandoned. The proofs of native working in metal are afforded by the numerous discoveries of celt, dagger, and sword moulds of stone, in which those weapons were cast. The moulds, as well as the casts, evince a notable progression in art. "The rude chip-axe improves into the highly polished wedge and celt; this in its turn gives way to the sand-cast axe of copper, or to the hammered weapon moulded in the indented stone. The more useful bronze next displaces the too ductile copper, and the celt and spear-head follow, gracefully moulded into form in the double matrix of stone or metal." We omit to particularise the various kinds of weapons and implements which receive their appropriate illustration in this excellent work, with the exception of the leaf-shaped sword, which bears a general resemblance to that of Denmark, Gaul, Germany, Italy, and Greece, suggestive of the idea of an extensive international intercourse; and we must remark on the smallness of its grip indicating the smallness of the hand that wielded it, which is characteristic of primitive races, but not of the Teuton. In the tumulus it has been found lying beside the urn, broken in two, as if the last honours paid to the defunct warrior had been to break his well-proved weapon, and lay it by his side, in proof that his work was done—his warfare accomplished.

The early influence of artistic and æsthetic taste, such as it was, may be recognised in the fictile vessels of domestic and sepulchral use, many of them displaying a shape and ornamentation in which we may trace a notable advancement in art from the more primitive vases of coarse material, unartistic form, and undecorated exterior; from the hand-made, sun-dried urn to the mechanically moulded and kiln-dried vessel; all full of interest as examples of native-skill, and indications

of the development of an art, that had its origin in the necessities of nature, but received its improvement under the influence of the inventive and imitative faculties. There is often a great contrast seen between the rude cinerary urn and the character of its accompaniments, consisting of personal ornaments of gold, jet, or shale, in the shape of beads, armlets, or necklaces. These are often so highly wrought and manifest so much ingenuity, that the author is induced to think that the Ancient British were not ignorant of the use of the turning lathe, or of some equivalent to it, as well as the potters' wheel, although these appliances are generally referred to Roman influence. The author observes, "while works of the Anglo-Roman period executed in shale, and with obvious traces of Roman art, are abundant, rings and armlets of polished shale occur even more frequently than the beads and necklaces of the same material among the contents of Scottish cairns and barrows, lying beyond the confines of Roman influence, and where no traces of their arts and arms have been found." But may we not err in restricting those confines within too definite limits, and may not these very articles be the evidence required? The "Druidical Adder-stones", which are beautifully formed and variegated glass beads, are unquestionable objects of extraneous manufacture, and the symbols possibly of a wide-spread and common superstition.

But it is time to ask who were this ancient people who, whether they originated amongst themselves, at all events practised the arts of metallurgy; who were devoted to the practice of cremation in the disposal of their dead; who enjoyed the distinction of a regular priesthood, who finally settled down from a nomade to an agricultural condition of life? Surely they were not the painted savages whom history depicts. They were an offset from the great Celtic tree that had a European range, planted on this British soil a thousand years at least, it may be, before the Christian era, and which Cæsar on his arrival found a hardy flourishing sapling, and withal more easy to bend than to break. They were in fact a people awaking, as it were, from a restless dream and emerging from the night of barbarism into the dawn of civilisation. As anthropologists we inquire, do their physical characteristics bear out the idea of their mental superiority to the races that preceded them? What was the conformation of their crania? This is a question still *sub judice*. Has the practice of cremation rendered the data necessary for its solution more difficult of access than otherwise might be? We invite the assistance of our brother antiquaries to the determination of this curious and important inquiry.

We have now arrived at the iron portal that opens on the historic

era; and are prepared to enter upon the consideration of the second volume of this valuable work, which treats of the iron and early Christian periods.

No invention has done so much to revolutionise the world in its social and political aspects, as the discovery of the method of utilising iron and applying it to the various requirements of civilisation. Though anterior to historical records, the period of its introduction marks an era that stands out in bold relief from the periods that preceded it. It was the birth-time of those Arts which have required the lapse of two thousand years and more for their full development and maturity; a space of time that carries the mental vision a long way back into the vista of the past, and yet is but a portion of that unmeasured space that separates us from the age of stone, when art itself had hardly wakened into life. If the introduction of bronze marks a new era of human progress, still more does that of iron; it was an innovation on established customs, though the changes consequent on its presence were probably not much recognised at first, its introduction being of a gradual and transitional character; but as the knowledge of its value and uses extended, an impulse would be given to barter and traffic, for we presume that Britain was indebted to foreign intercourse for the knowledge of the uses of this metal. Its rarity in a metallic form, and in that respect differing from gold and copper, would necessarily keep the people in ignorance of its use, nor can we readily imagine that the method of smelting its ores was a result of unaided native ingenuity. It is probable that Britain was colonised at long intervals by three distinct families of the Celtic stock, the Gael, Cymri, and Belgæ, each of whom would introduce improved arts into his adopted country. It is well-known that the Teutons and Cimbri were familiar with the use of iron weapons long before the time of Cæsar's invasion of Britain, and as there was in Cæsar's time free intercourse between Gaul and Britain; and, as classical writers inform us that the bronze leaf-shaped sword had been long superseded in Gaul for the iron weapon, we may infer that similar changes had also taken place here. Tacitus describes the Caledonians as "a strong warlike nation, using large swords without a point, and targets, wherewith they artfully defended themselves against the Roman missiles". It is not so easy to say how the Teutons and Cimbri became possessed of their great secret, but we know that one at least of the earliest European sources of iron, as well as gold, was the country of the Norici, lying to the south of the Danube, the people who are said to have invented steel. Noric swords were as celebrated at Rome in the reign of Augustus, as Damascus blades or Andrea Ferraras in modern times. Another

source may have been Scandinavia, for it is remarkable that the stone period in Norway was apparently succeeded by that of iron without the intervention of the archaic or bronze period; whence we may infer, perhaps, that her population possessed an earlier knowledge of the use of iron than did some other countries. Still all the legends of the country, and they are legion, point to an Asiatic origin for it, and Teutonic traditions place the forge of Wayland Smith somewhere in the Caucasus. Nevertheless Britain long preceded the Scandinavian regions in civilisation, "nor was it till she had been enervated alike by Roman luxury and by the intestine jealousies and rivalries of her later colonists, that Scandinavia, fresh in young barbarian vigour, made of her a spoil and prey."

Whether iron was manufactured in Britain before the Roman invasion it is impossible to determine, though there seems to be probability in the supposition that the Roman on his arrival found iron and lead works, as well as copper and tin. Tacitus refers to the metallic wealth of Britain; Pliny alludes to the smelting of iron; Solinus speaks of its use; Cæsar found iron ring money in Britain. The Romans unquestionably gave an impulse to its manufacture. That they smelted the British iron ore there can be no possible doubt, for in Sussex and in Yorkshire the sites of their furnaces are known; even in Scotland, so far north as in Sutherland have the marks of ancient iron works been noticed. Islay was celebrated for its "Islay blades"; and Blair Atholl has its "Dail-na-Cardoch", the dale of the smith's shop; and "Dail-na-mein" the dale of the mineral. But these Highland traditions and memorials point to a knowledge of the art independent of Roman influence; for Scotland, unlike her sister England, did not receive the Roman as a civilising conqueror; her native tribes always resisted his occupation as an intrusion on her soil, and what he effected was chiefly of a military character and was comparatively of short duration and limited extent. The vallum and forts extending between the Forth and the Clyde, the work of Agricola and Antonine, were constructed for the defence of the newly-conquered territory which extended from the frontiers of England; beyond this, the Romans obtained no permanent footing in Caledonia. This territory they held for about seventy years only, yet during this brief period the rude Caledonian barbarians must have felt the silent influence of that superior civilisation which forsooth they would have driven from their soil. It is not necessary to dwell on the memorials of Roman occupation, as these have been fully treated on in works devoted to the subject.

The museums of Glasgow and Edinburgh contain many altars and sepulchral tablets found chiefly in the line of Antonine's wall, mute

but faithful witnesses of facts and occurrences respecting which contemporary writers are silent; such records are, therefore, truly "pre-historic", and demonstrate the value attached to such ancient monuments, and argue the necessity of their preservation; the information thus supplied is often more trustworthy than that which is derived from the pages of the annalist.

The construction of strongholds for purposes of defence and protection mark the progress of civilisation. From the scarped hill and small hill-forts of earth and loose stones, to the skilfully planned stronghold with its deep fossæ and lofty encircling valla, is an advance in military strategy that may mark the progress of a nation from the stone to the bronze and iron periods. It is very difficult, however, to assign a date to these, as well as to other cognate structures, the vitrified forts, the Pictish burghs, and the crannoges of the Scottish lakes, from some of which weapons of iron, as well as of bronze, horn and stone have been recovered. With regard to fictile ware, Roman influence seems to have had but little modifying effects on the productions of native Scottish arts, which retained their rude and primitive style until the Anglo-Saxon æra: not so with objects of a metallic nature, in which we may trace a notable improvement in workmanship and artistic design. The snake-like forms of many bronze armillæ and torcs may undoubtedly have caught the inspiration of Scandinavian art, but it has been too common an error to attribute all elegance or originality of design in ornaments of a personal kind to Norway and Denmark. Such has been remarkably the case with the interlaced pattern, or "runic knot-work", which figures on metallic ornaments and on stone monuments, and which has been frequently referred to a Scandinavian origin without the slightest evidence. There is one class of relics consisting of fibulæ, armillæ, torcs and chains of silver which distinctly belongs to the period we are now considering. Valuable examples of such are to be seen in the Scottish Museum.

There is nothing, perhaps, sufficiently characteristic to distinguish the sepulchres of this late Pagan æra previous to the introduction of Christianity from those of the periods that preceded it: but it is only in the last that remains of the war chariot and horse have been found. "It is only in this last period, when we have reason to believe that a new race of colonists had brought with them to the British Isles many novel arts and customs, that we clearly trace the evidence of the horse having been subdued to the service of the northern Briton, or find the relics of the war chariot among the contents of the tomb or beside the urn." The war chariot is of itself an evidence of skill and of progress in civilisation. The admixture of the Teutonic race

with the British Celtic and the inroads of the Roman legions conspired, no doubt, to produce a great diversity in the later heathen sepulchral rites before they experienced a great and final revolution by the subversion of the ancient superstitions through the influence of a new and nobler faith. And this brings us to the Christian period, not strictly pre-historic, it is true, but dependent very much for its illustration on the monuments and works of art which belong to the traditional stage of its history.

After the retreat of the Romans, North Britain was divided into the kingdoms of the Picts, and Dalriads or Scoti. Of the Irish derivation of the latter there can be no doubt: the migration took place about the beginning of the sixth century. With regard to the former people, after all the learning and controversy displayed on the question of their origin, the ignorance of monkish fable and extravagance of bardic legend, the result seems to be that the Picts were simply the original native population common in part to Scotland and Ireland, and also to Wales. They composed the tribes that united under Galgacus to repel the Roman invasion, and occupied the country, perhaps, to the third century. The Dalriads or Scoti, supposed, not without reason, to have been of Iberian descent, and settled in Ireland, were an intrusive people, who, after a long struggle with the Caledonian or Pictish tribes, succeeded at length in obtaining the supremacy, and founded the little Scotie kingdom in what is now called Argyleshire. Close intimacy and intercourse subsisted between Scotland and Ireland, but the great fact with which we have to deal is the introduction of Christianity amongst the native tribes of Caledonia, which occurred about the close of the fourth century. Of Ninian, Palladius, Columba, and other holy men and missionaries; of Whithern and Iona, the seats of the earliest ecclesiastical edifices in Scotland, we need not speak, as their history is sufficiently well known, but we must advert to the fact, admitted by northern antiquaries, that Scotland and Ireland were Christianised centuries before Scandinavia. It was not until the ninth century that we find authentic traces of the Vikings on the Scottish shores, and then as pirates and marauders; and it is impossible to doubt that "numerous ecclesiastical fraternities had been established on the mainland and surrounding islands long before the natives learned to watch the horizon for the plundering fleets of the Norse rovers." First coming as a plunderer, afterwards as a conqueror, the Norseman established a permanent footing in North Britain, and for two centuries at least he exerted a notable influence on the civilisation of its islands and highlands, producing a mixture of race the evidences of which are still apparent in the national character of the people of Scotland.

We must now glance at a few of the existing memorials of this primitive Christian period, and first of the "sculptured standing stones". The "catt stone" near Edinburgh, one of which bears an inscription rudely carved in Roman characters, which has received various learned interpretations in connexion with its Celtic name of "Battle" stone, the last of which is epitomised in the title of an ingenious essay by Professor Simpson. "Is it not the tomb stone of the grandfather of Hengist and Horsa?" We should be inclined to reply, as these are deemed by some to be mythological personages, the idea is rather a shadowy one. But the most remarkable monument of this class is the so-called Newton stone, bearing an inscription which has puzzled the brains of learned men of all time: it is Phœnician; it is Greek; it is barbarous Latin; it is neither the one nor the other, but the language is Hebrew and the characters are Buddhist! And the inference drawn from this singular and ingenious discovery is, that a Buddhist colony, consisting of converted Hebrews, had visited the shores of Scotland as missionaries of the Buddhistic faith two or three centuries before the Christian æra, and erected this memorial to one of the brethren. Here is another nut for anthropologists to crack!

But the sculptured stones of Scotland, with their Ogham and Runic inscriptions, mysterious symbols, and beautiful yet primitive designs, have received such ample illustration in the learned work of Mr. Stuart, of the Society of Antiquaries of Scotland, and as on the appearance of his forthcoming volume we propose to devote an article to this interesting topic, we shall not now dwell on that subject. It is a remarkable fact that by far the greater number of sculptured stones of the early Christian period are not found within the original limits of the Scotie kingdom, where Irish influence prevailed, but in the north districts between the Moray Frith and the Tay. They differ in certain peculiarities from similar monuments found in England, Wales, and Ireland; and also in Norway, Sweden, and Denmark, so that the theory of their Scandinavian origin must be abandoned, and although great obscurity involves both their date and origin, they must be deemed to be specimens of ancient art, peculiar to Scotland. The comparative isolation of Scotland was favourable to the development of a peculiar style resulting from the modification of primitive designs, and their retention to late periods, uninfluenced by the mediæval styles of art of other countries.

But Scoto-Scandinavian relics exist, in the shape of sculptured crosses and rune-stones in the Isle of Man, which was an integral part of the Norse kingdom of North Britain; and in brooches and other personal ornaments, and weapons disinterred from the graves

of Orkney and the Shetland Isles. One curious class of relics of this kind consists of bronze vessels made in the shape of monstrous or mythological animals, reminding one of specimens of fictile ware that have occasionally been found in England of analogous patterns.

Nor is there any want of Anglo-Saxon remains in Scotland, which is not to be wondered at, considering that the kingdom of Northumbria extended its northern boundary to the Forth. But the eastern shores of Scotland received their Teutonic immigrants prior even to the intrusion of the Northmen. The Teuton gradually acquired predominance in the Scottish lowlands, where the Celtic race was never formally superseded as in England, but "merged into the Saxon by gradual and peaceful steps." Hence there is not that contrast between the remains of the Anglo-Saxon and the older native race as is found in England. The remains of the Anglo-Saxon are chiefly of a later æra of Christian art, and are chiefly seen in ecclesiastical structures. There is, however, one celebrated relic, the Ruthwell cross, which is inscribed with Anglo-Saxon runes, and as the most important runic monument in Britain has excited great and deserving interest.

To this also a Scandinavian origin had been assigned: but Mr. Kemble pointed out the Anglo-Saxon character of the inscription, which, by a curious coincidence, was proved to be a portion of an Anglo-Saxon poem of the ninth century, entitled the *Dream of the Holy Rood*. In reference to the discovery of some very curious specimens of chessmen of this æra, in the Isle of Lewis, and which like other relics of ancient art have been erroneously attributed to Scandinavian influence, the author observes, "the farther we pursue this investigation into the history of primitive native art, we find the less reason to assign to it a foreign origin, or to adopt the improbable theory that the rude Scandinavian rovers brought with them from the pagan north new elements of civilisation and refinement to replace the Christian arts which they eradicate at the point of the sword." The author is justly jealous of the claims of his country to originality of conception and to the ingenuity displayed in embodying it in execution.

With the exception of the round towers of Brechin and Abernethy, which are the counterparts of those of Ireland, and were undoubtedly built subsequently to the introduction of Christianity, and are probably Culdee memorials of the eleventh or twelfth century, there is nothing to mark a distinction in the Romanesque style of architecture of the churches of Scotland and England. The same style of building, instances of which are not rare in Scotland, exists in both countries. Some interesting specimens of early art have been reco-

vered in the small portable bell and crozier of the primitive bishop; and we must make special mention of the golden chalice of Iona, perhaps the most interesting ecclesiastical relic that Scotland possessed, but which, alas! is now no more. It was treasured for years by the Glengarry family, until it was presented some years since to the Roman Catholic Bishop of Glasgow. The sacristy of St. Mary's was broken into in 1845, and the golden chalice of Iona shared the fate of numerous other invaluable relics of ancient art.

In his concluding remarks, the author, having alluded to the influence of geographical conformation on the direction of the lines of primitive Asiatic migration into Europe, thus speculates,—

“Of this comprehensive system of ante-historical research the archæology of Scotland forms the merest fractional item. It is indispensable, however, for the integrity of the whole; and as I believe that it is not at Babylon or Nimrud, but at the northern steppes of Asia that the primæval history of the elder continent must be sought; so also it is not in the annals of Greece or Rome, or in the antiquities of the most ancient historical regions, modified by their arts and arms, but in Ireland, Scotland, in the Scandinavian countries, and in Switzerland that we may hope to recover the unadulterated first chapters of European history. The precise conclusions to which we have been led, in relation to Scottish archæology, are such as amply accord with this idea. The Celtæ, we have seen reason to believe, are by no means to be regarded as the primal heirs of the land, but are on the contrary comparatively recent intruders. Ages before their migration into Europe, unknown Allophylian races had wandered to this remote island of the sea, and they in their turn gave place to later nomades, also destined to occupy it only for a time. Of those anti-historical nations archæology reveals the traces. Hitherto both the historian and the ethnologist have ascribed their remains to the later Celtæ, the first historical race of Northern Europe, introducing thereby confusion and cumulative error into all reasoning on their data. Those elements of history can only be rectified and properly adjusted when the primitive archæology of the various countries of Europe has been sifted and treated in detail.”

Much indeed remains to be learned, and much to be unlearned too, before we may arrive at any safe conclusions on the relations of the races who may be generically denominated “the ancient British” people.

It is unnecessary to eulogise a work that has already received its meed of public approbation; we must nevertheless remind our readers that this second edition appears in a different phase from its predecessor. In the author's own words, “The progress of antiquarian investigations, and the value they have acquired in recent years in relation to other studies, render the changes demanded in a second edition unusually extensive. I have accordingly availed myself of

the opportunity to remodel the whole. Fully a third of it has been entirely rewritten, and the remaining portions have undergone so minute a revision as to render it in many respects a new work." It is indeed a most valuable contribution to anthropological science; nearly always philosophical in spirit, generally accurate and painstaking in details, it will do more to raise archæology above the sneers and unmerited contempt of the intelligent part of the community than any work which has hitherto appeared on the subject; whilst to the scientific student of historical anthropology it commends itself at once by its obvious merits. The object of these studies is to draw aside that dark veil which at present hides the features of the pre-historic past from the fulness of our view; some glimpses indeed have been obtained, but we want more light; and even this is not a vain and hopeless aspiration whilst there are so many able, earnest, truth-seeking torch-bearers in the field. We watch and wait!

BODICHON ON HUMANITY.*

THERE are two classes of French books more interesting to scientific men than any others. These two classes are such as are crowned by the Institute (*couronné par l'Institut*), and such as are persecuted by the Government. To the former class belongs, among many others, the famous *History of Semitic Languages* by Renan; to the latter, the work now before us. A book professing to treat at any measure of length, and with any degree of system, on so wide a field as humanity, must have on anthropologists peculiar claims, and be scrutinised by the students of that science with the closest attention, and allowed every meed of respect possible to be bestowed upon it. But when such a work comes with the extra recommendation of governmental persecution, and is the work of a medical man in that great French colony now justly occupying the attention both of an emperor and of thousands of less prominent individuals—when it is printed in Algiers itself, and the course of its printing checked by departmental authorities, and finally emerges into the world in the free air of a Swiss capital,—such a work, the writer opines, is more especially worthy of consideration at the hands of the lovers of science or of humanity.

Though published twelve years since—and the worthy doctor is careful to inform us of the exact dates when the printing and publica-

* De l'Humanité, par Bodichon, Docteur en Médecine à Alger. Genève: 1853, quarto, double columns, pp. 176.

tion began and were completed—anthropology has not so entirely changed its aspect as to render the book obsolete or behind the times. All anthropologists know what an immense impetus the discovery of the lacustrine habitations, the weapons of the stone ages, the Danish and Scottish kitchen middens, has given to our studies; but though the veil which hides from us the early progenitors of our races, had not been drawn aside so far at the period when Dr. Bodichon composed his work, yet many of his ideas have been confirmed by recent discoveries, or illustrated by national events, thus fairly demanding from us an honourable hearing upon questions yet concealed from us.

A speculative book is always a difficult book to summarise. There is the primary objection to it, that it has to assume so much, that it necessarily must be dogmatic in tone, and that the writer himself, as it were, inspired with the entire idea of his production, has an eminent advantage over the reader, who finds on the first page an assertion the proof of which lies remotely buried amidst a mass of illustrations, arguments, and inferences, separated from it, perhaps, by half a volume, and tedious to the patient student to eliminate. Such a book truly resembles nature and the universe itself, where heaped in apparent chaos, but, probably, nay, almost certainly, general order, lie the fragments whence humanity has to reconstruct the edifice of its lost history—to rediscover the landscape changed a million years ago—and by which to penetrate into the arcana of nature itself.

But there is a secondary objection to a work of speculation like the one before us. And that is, that though the writer may himself have accumulated vast stores of learning upon every conceivable topic necessary for the illustration of his central idea, it is humanly impossible that he can have so probed the depths of each of these sciences, as to present their inductions and results with uniform verity; and, perhaps, it is this very inequality of effort which is the best guarantee for our ultimately arriving at a high degree of approximation to the truth in our speculations upon the origin of this earth, at least, if not, with similar fulness, upon the nature of cosmical bodies more remote from us.

However, when a labourer in this arduous field boldly steps forward and sets forth many doctrines at variance with the received views of his age, in the writer's opinion he is entitled to be exempt from the process of annihilation until his arguments have been calmly considered. Surely, there is a great want of logic, and an infinite evidence of timidity, on the part of those who are terrified at doctrines being asserted controverting the established state of things.

Dr. Bodichon divides his work into six books of unequal length.

The first book, comprising about a fifth of the whole, contains the cosmological, geological, and ethnographical portions of the work, leading in its concluding sections through some singular psychological considerations to the second book, devoted to a social and political review, to which we will make subsequent reference. Our space here will not admit of so full a report upon the contents of each chapter as might be desirable, but the more salient points can be touched upon without unnecessarily increasing the length of this article.

The Creator is (dogmatically) represented as a being of ceaseless activity engaged in recreating and destroying portions of his universe, which is infinite. Chaos is a myth; the earth on which we live is, together with the planets and the present sun, merely a larger structure of a fiery nature cooled down into second astral groups. The earth was vaporous and so forth.* It is not too much to say that this eternally similar story is so wearisome, that it may be dismissed and passed over for more practical points. Unlike most learned systematisers, Dr. Bodichon appends no notes, makes no citations, and gives us no clue as to whence the principal ideas enounced in his book are primarily derived. Of course, these several ideas are common to the memory of most readers on cosmogony, and those who wish to verify can do so without much difficulty; most persons will, the present writer thinks, be more inclined to regard the unattainable as best left alone. So much, within our power, remains to be discovered, that the question of cosmogony in itself, may well be left to be considered at some period when science has shed its wisdom-teeth, and sunk into senility, preparatory to the tomb.

But, if the cosmological inductions of M. Bodichon are not remarkable for novelty, they are, at any rate, so far a proof of an unprejudiced mind as to prevent his being terrified into slavish subservience to authorised opinions now, and perhaps for the last time, on their trial. That this world must succumb to the fate of other astral systems, and pass through a cataclysm at some period not very remote, geologically speaking, is his opinion; the necessity of such an event seeming to Bodichon to be reasonable upon chemical and other cosmical grounds. Yet for similar reasons of analogy we find him espousing the polygenistic side of man's origin; and here more legitimately we may begin to see what train of thought led M. Bodichon to the opinion.

Broadly stating that "it is repugnant to reason to suppose that the European rat was born of the same parents as the rat of Oceania,

* The growing of the earth at the expense of the air, an opinion advanced by M. Bodichon in 1853, we recommend to the consideration of Captain Drayson, who published a suggestive little book about 1857 on the subject.

from the same cause it is repugnant to belief that the German and the Australian had the same parents. If God had, for the whole of humanity, created but one couple, it would have taken millions of years for the children to have formed the races we now see in existence, with such opposite physical and moral types." And, now, defenders of the six thousand years theory, rejoice that the doctor is orthodox at your expense! If he concede the limited period, he abandons the monogenistic theory you have fashioned out of the primeval Hebrew myths! Hear the doctor, and sit at the feet of Gamaliel!

"Now," he continues, "this long existence of the human species" (*genre* is the French, anthropologists must translate as they will) "is not to be accepted; tradition, science, reason, demonstrate that it is recent. *I, therefore, admit a multiple creation of races*: furthermore, in consequence of the law of continuous progress, revealed by geology and history, I admit that the first created were the inferiors, and the last created the superiors." M. Bodichon regards the first created pairs to have been created in an adult state, but each couple suited to the climate and surroundings in which it was placed, and that, as the particular soil in which certain grains of wheat are sown modify the character and qualities of the product, so also with man diversely distributed over the earth's surface. Structurally, therefore, it may be deduced from the doctor's principal idea, men are brethren, but in kind and degree, not in physical or mental qualities. There is an archetypal resemblance, as between dog and wolf, cat and tiger, but no further to be talked of, as being really and absolutely identical. He expressly says: "Rationally and physically, parentage is truer than fraternity." And again: "Each civilisation is the result of the physical and moral organisation of the race which exhibits it. As every part of the globe offers its special vegetable and animal types, so also every part of the globe possesses its human race and its peculiar human types. The study of physical characteristics," he continues, "is the most important sphere of anthropology. Other sciences, history, archæology, numismatics, and philology, can only be auxiliary to it. Physiology will determine the origin and filiation of men as of other animals. Every anthropological classification should be made according to the organic structure, as the principle of life eludes our search."

These principles indicated, M. Bodichon descends into particulars, recommending the study of the inhabitants of the mountains and the plateaux, as being more primitive and less removed by long habit from their ancient centres; but he takes exception at some expressions employed in the terminology of previous ethnographers. "To be-

lieve that Asia peopled the world—to call nations Indo-Germans, Indo-Scyths, Indo-Malays—is a gross (*capitale*) anthropological error. These countries could not produce races so different as those so named. Fair (*blonds*) autochthones are not found in the Himalaya range, in the Altai, and other zones of central Asia; that portion of the globe is the home (*patrie*) of the yellow races.”

To hybridity of races M. Bodichon attributes the various aspects of mankind as now seen, everywhere the superior race stamping its own likeness upon the race inferior to it, and altering its features and general characteristics; but still the majority of races are found in much their original local centres, little changed by invasions and other disturbing causes. The mound builders of America linger near their ancient habitations, and the architects of Palenque, Uxmal, Ellora, have left their descendants near those ancient structures. Such may serve as a brief specimen of the general ideas of M. Bodichon upon the races of man. Each race, besides, has its destiny, its functions, and its use to general humanity.

It would be beside the present purpose to enter into the details of M. Bodichon's classification of man; such advances have since been made upon this head, that however valuable at the time, and useful when read in continuity with the remainder of his work, it would be out of place in this brief notice. Be it only said that he regards man as having been distinctly created at successive periods, and that to the first he counts the Australians, the Andaman Islanders, some tribes of Thibet, Siam, Formosa, China, New Guinea, the Hottentots, the Bushmen, the Lapps, the Samoyedes and Eskimos; the second comprises the Papuan, Polynesian and Micronesian Islanders, the redskins of North America, the Guaranis, the Caribs, Aztecs, Quichuas, etc.; to the third are allotted the Ethiopian, Kaffir, the Gallas and the Javano Malays; the fourth creation comprehends the Chinese, Japanese and Mongol races with their affiliations; to the fifth creation he assigns the Hindoos, Arabs, Jews, Irano-Caucasians, the Arameans, the Pelasgi (Hellenes and Roumans), Spaniards, Portuguese, Corsicans, Basques, Turks, Finlanders and Magyars; the final and sixth creation includes the Poles, Russians, Slovaks, Serbians, Croats, Illyrians, Normans, Danes, Swedes, Norwegians, English, French, Irish, Gauls, Celts of Scotland and the Teutonic races in general. The purpose of the creation of these numerous races M. Bodichon considers to have been that of serving the ends of progress, to be attained by a continual battle with innate desires and outward adversities, with a final triumph over the forces of nature, and the reign of perpetual happiness, but not after the fashion of the millennium of Dr. Cumming or learned enthusiasts of other creeds.

M. Bodichon having, to his satisfaction, though it seems somewhat empirically, settled the distribution and successive appearance of human races upon the earth, next proceeds to semi-political vaticinations as to the specialities of the millennium, and its mode of gradual evolution. Inferior races are to be absorbed or destroyed before their superiors, and M. Bodichon pushes this doctrine to such an extreme, that he most unquestionably has overstepped the natural boundary of science. To enter into speculations as to *why* man was created is undoubtedly to forsake the realm of Positivism, and to replunge into the slough of metaphysics, by men of science left to thinkers rather than experimental observers. The chapter discussing this abstract point may therefore be passed over.

Dr. Bodichon considers that the races of greatest continuance have been those most applying themselves to the cultivation of the soil, most intermarrying among themselves, and (though this is beside the scientific question) most applying the doctrine of fraternity. Indeed, here may be seen the reasons why the government persecuted the book; ultra democracy, whatever view may be taken of it generally, was obtruded into a book purporting to be purely scientific, and hence its subsequent fate. His conclusions are, that wherever a race is seen to be smitten by great calamity, the three principles above stated have been violated, and that it is justifiable to destroy that race—hence the necessity for destructive personages.

A few instances of some very curious fulfilment of our author's speculations, and we will lay the book down. The principal instructors of the human races in their several orders, according to M. Bodichon, are North America (representative of liberty in all religious matters), France (that of Catholicity or the authority of one will), England (Protestant and oligarchical), and Russia (the absorption of religious and civil authority into one person); while Germany he regards as being an equilibrium upon these points. Other chapters of the book are occupied with the settlement of natural geographical frontiers. Our author, however, is singularly unfortunate in his speculations regarding Italian unity, which he deems impossible so far as Naples and Sicily are concerned.

The second book inculcates revolutionary principles, and we may therefore leave them there. More curious are the speculations as to the future of the Negro and other races. M. Bodichon predicts—Negro governments in Brazil, Guayana, Venezuela and the Antilles. The West Indies will form an insular federation of blacks. Madagascar will be developed in like manner, and an African state will arise along the various shores of that continent. For Egypt, M. Bodichon predicts a period of national grandeur in the future, and

the initiator of this progress is to issue from the race of Fellahs, while Nubia and Abyssinia will resume a high position. But as all this, and as much more, is to be accomplished only by the result of an intermixture of races, we fear the time is far distant.

We will conclude this notice of a really curious and suggestive book by one short extract, which, written in 1852, has received in a sad and impressive manner its fulfilment in 1865.

"Between the shores of the Atlantic, the Gulf of Mexico, and the Rocky Mountains, the Anglo-American union will continue its development. *The Southern States will make war for some time upon those of the North, but they will finally be subdued, inasmuch as they are inferior to them in morality, activity, and equality. The Negroes will be emancipated by consent or by force.*"

But a Frenchman who deliberately anticipates, as M. Bodichon has done, that his own country is not destined to be at the apex of civilisation, is a phenomenon of some interest. We trust, therefore, his book will receive more attention than it has hitherto done.

ON ANCIENT BRITISH SCULPTURED ROCKS.*

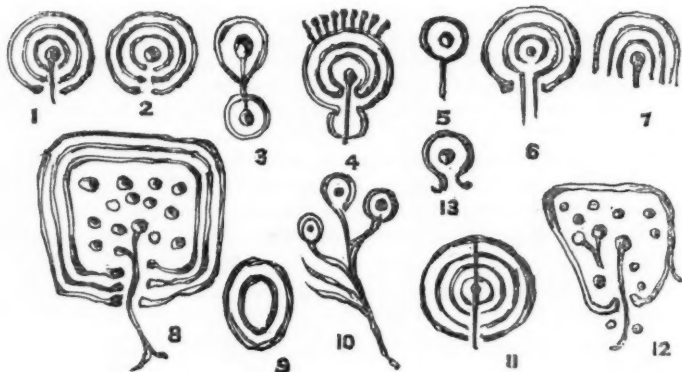
IN one of the counties in the north of England there exists a class of antiquities so rare as to be supposed to be unique to that part of the country. In the county of Northumberland there are fifty-three stones or rocks on which there have been discovered about three hundred and fifty figures.

Mr. George Tate, the accomplished and zealous Secretary of the Berwickshire Naturalists' Club, has recently issued a long hoped for memoir on this subject, and he thus describes the characteristic figures:—

"The most typical figure is composed of a series of circles around a central hollow or cup, from which proceeds a gutter or radial groove through the series of circles—*Fig. 1, p. 141.* In most cases the circles are incomplete or stop short of the radial groove; but in others, they are complete and join the radial groove; the distinction, however, is immaterial. This form distinguishes these sculptures from all others. Sometimes there is only one circle; frequently there are three or four; and in one case there are eight. The size varies from two inches up to thirty-nine inches in diameter. Some forms are true

* The Ancient Sculptured Rocks of Northumberland and the Eastern Borders, with Notices of the Remains associated with these Sculptures. By George Tate, F.G.S., Cor. Mem. Soc. Ant. Scot., Local Sec. of the Anthropological Society of London, Secretary of the Berwickshire Naturalists' Club. Alnwick: Blair, 1865.

circles, as if drawn by the help of an instrument; most, however, had been drawn without such aid, for they are irregular in outline—some bulged out in breadth, in the proportion of 13 and 14 to 12, others lengthened and pear-shaped. Usually the groove is straight, but sometimes it is curved and wavy, and oftentimes extended beyond the outer circle. The groove is very generally down the slope of the rock, but occasionally it is across the slope.



"Another highly typical figure consists of incomplete concentric circles around a central hollow, but having no groove—*Fig. 2*. The passage out of figure 1, is as it were, by a hollow way; but out of this by a causeway.

"These incomplete circles sometimes end in hollows.

"The groove passing through the concentric circles, sometimes is diametric—*Fig. 11*; but this is not frequent, and occurs chiefly in compound figures.

"A circle or circles around a cup, but with the groove extended from the circumference of the outer circle—*Fig. 5*.

"Incomplete concentric circles around a cup, and with two parallel grooves from the ends of the inner circle—*Fig. 6*.

"Another figure similar to this, has one groove from the central cup and another parallel to it from the outer circle.

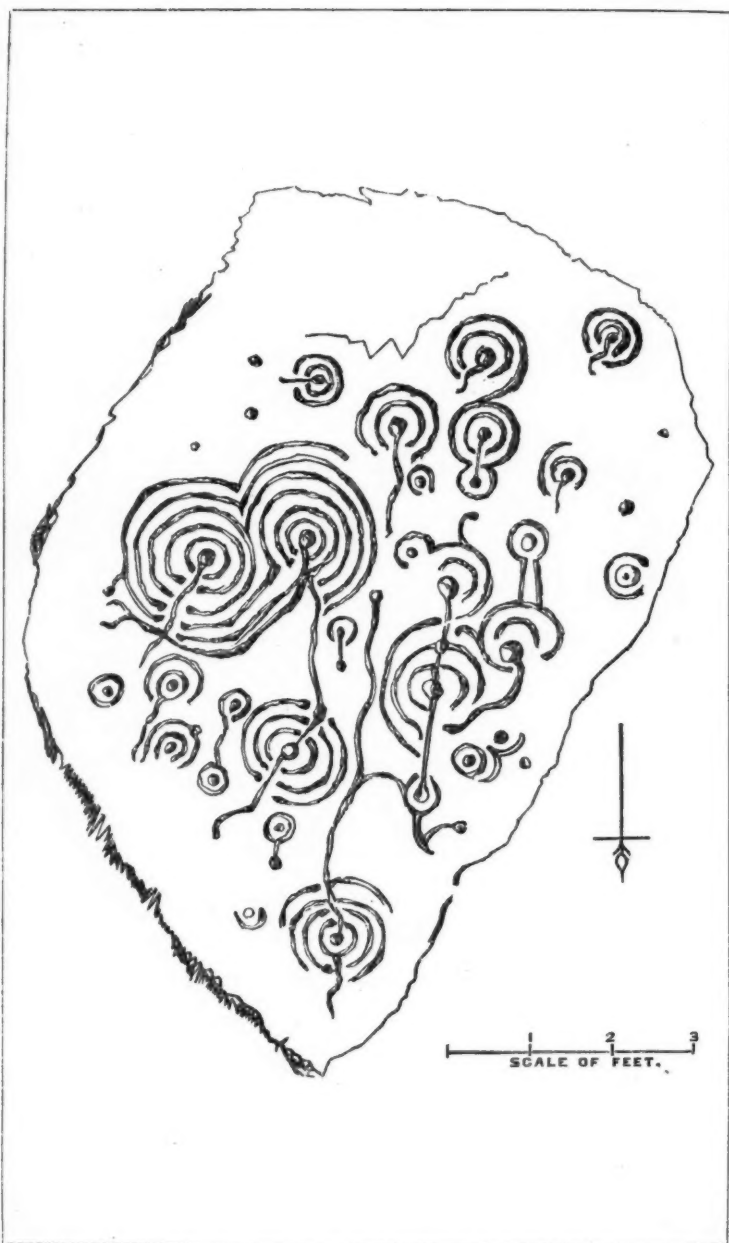
"Concentric arches over a cup, from which there is a straight groove—*Fig. 7*.

"Horse-shoe figure around a cup—*Fig. 13*.

"A figure of the common type, but with the addition of nine grooves radiating from the outer circle and directed southward—*Fig. 4*.

"Some figures inclose more than one cup; two examples of this are here given, along with forms considerably different from the common type.

"An oblong figure, rounded at the corners and contracted at the base, with twelve cups and a groove from the centre; it is difficult to



give an intelligible description of it, and reference must be made to *Fig. 12*.

"Three concentric squares rounded at the corners, having within them many cups and a radial groove—*Fig. 8*; both these forms we could imagine to be circles squeezed out of their normal state.

"Less characteristic forms are:—

"Concentric ovals—*Fig. 9*.

"A circle.

"A circle or series of concentric circles around a central hollow.

"Round hollows or cups occur scattered over stones without being enclosed by circles or other figures.

"Various forms are often combined with each other, presenting complicated, strange maze-like figures, which will be best understood by reference to the woodcut in plate opposite. Two of the simpler combinations may be noticed here.

"Circles and groups of circles united by a groove passing from centre to centre—*Fig. 3*.

"Three detached circles, each around a cup, are united by grooves, so as to give a rude resemblance to a plant with a stem, its branches, and flowers—*Fig. 10*.

"With a few exceptions, these sculptures are marked by a family character, which is readily recognisable by experienced observers; yet though fifty-five different inscribed stones have been discovered in Northumberland, no two of them are alike. Even where abnormal forms appear, we are enabled, by their association with figures of the common type, to include them in the family group."

These figures are inscribed on sandstone, in some cases the cutting is nearly half an inch, and the hollows sometimes as much as one inch and a half deep. Some of these markings are dreadfully worn by the elements, and can now be hardly traced; while in others, which have been covered over with peat, Mr. Tate states the marks of the tools are clearly to be seen. He says:—

"The markings have been chipped or picked out, and not made by rubbing; the best preserved figures show that the tool was bluntly pointed. All our sculptures are in sandstone, which could have been incised by such a tool as was used, in far distant pre-historic times, made of basalt, flint, hornstone, trap, or jasper. Metals, however, were known in the district when the sculptures were incised; bronze and copper objects have been found in their neighbourhood; and in some parts of North Northumberland considerable numbers of bronze celts have been discovered, as well as bronze daggers, spear-heads, and swords. Querns made of hard intractable porphyry have been taken from the forts about Yevering, and one from the Weetwood Camp; but as these could not have been fashioned by any stone tool, it is therefore probable, that metallic tools had been also used to inscribe the Northumberland rocks. This conclusion is corroborated by the character of the Argyleshire rocks, which are so hard that

stone tools could not have chipped out the inscriptions. Probably the metal was bronze, which seems to have been in considerable use at the period."

There are two interesting and important facts in connection with these inscriptions: the first is, that of all these stones, not one is more than a mile away from some traces of ancient British remains, such as camps, forts, or hut-circles; and the second is, the fact that four of these inscriptions have been found on the under surface of the covers of cists.

These inscriptions have also been found in Scotland and even in Orkney. Mr. George Petrie found in 1855 an upright stone in a sepulchral chamber with four concentric circles around a central hollow. The Rev. William Greenwell's explorations in Argyleshire have revealed the fact that the sculptures of this part of Scotland "are of the same age and the same character as those in Northumberland." Similar inscriptions have been found in Dorsetshire and Yorkshire; and, says, our author, "recent researches in the South of Ireland have revealed sculptures of precisely the same family character as those in Northumberland."

Mr. Tate says: "So far as I have been able to ascertain, inscriptions of the same character as ours have not been discovered beyond the British Islands."

Now, this is the point to which we especially wish to direct the attention of anthropologists in different parts of the world. We cannot but think that similar, if not identical, inscriptions will be found in other parts of Europe, if not in India and America. We hope that all who have an opportunity will closely examine all the rocks in the vicinity of ancient remains or on the covers of the cists.

The first stone was discovered nearly forty years ago by Mr. J. C. Langlands of Old Bewick, in close proximity to the great camp on the hill at that place. The following is a woodcut of the inscription on this stone.

Mr. Tate observes:—

"All the figures are of the common type; indeed, there is less variety on this stone than on any other of similar dimensions. The figures, however, being much connected with each other, give the whole a strange maze-like appearance. Imagination could revel amid these complicated forms; life budding might be seen—the passage of life to a higher life—the transmigration of souls—central suns—orbital planets—attendant satellites—and perhaps too, divinity might be thought symbolised by the central hollow; and the radial grooves penetrating through the circles and beyond them, might represent a Divine influence pervading all the realms of matter and spirit."

Mr. Tate's admirable memoir concludes with a section on the meaning of the sculptures, and observes :—

“Though of late there have been many speculative views put forth as to the meaning of these symbols, it is doubtful whether any advance has been made on the general views proposed by me in 1852. The numerous additional facts observed, confirm I think the conclusions—first, that these inscriptions have been made by the Celtic race occupying Britain many centuries before the Christian era; and second, that the figures are symbolical—most probably of religious ideas. Look at the extent of their distribution, from one extremity of Britain to the other, and even into Ireland; and say, what could induce tribes, living hundreds of miles apart, and even separated by the sea, to use precisely the same symbols, save to express some religious sentiments, or to aid in the performance of some superstitious rites.

“Beyond these general views, I confess we wander into the regions of fancy and conjecture.”

Here, for the present, we must leave this subject, looking with great interest to future observations to elucidate the meaning of the remarkable remains. We cannot, however, conclude without passing a tribute of praise for the zeal with which Mr. Tate has worked out this subject up to its present point. It is true that Mr. Langlands was the first to notice these figures, and is deserving the highest praise for the attention and hospitality which he has always shown to visitors to this wild region, and it is none the less true that the Rev. William Greenwell was the author of a still unpublished paper on this subject in 1852, read to the Archæological Institute; but it was left to Mr. Tate to work up the whole subject, and by his personal wanderings over the whole district to produce a memoir so complete as the one under consideration. This book forms a complete hand-book on the subject, and contains the only reliable account of the curious inscriptions which has been published.

We would especially warn our readers against the partial, and in some cases, most inaccurate accounts which have from time to time been put forth by Dr. Bruce, of Newcastle, and others, who know just enough on the subject to confuse both themselves and those who listen to them. Some of the natural markings on these rocks have been described as artificial inscriptions. This has thrown the whole subject into confusion; but, thanks to the geological knowledge of Mr. Tate, he has removed a great deal of the misconception existing on this subject, and we most heartily thank him and the Berwickshire Naturalists' Club for giving to the world in such a complete and convenient form such thoroughly reliable data on the subject. We have recently had an opportunity of comparing Mr. Tate's drawings with the original stones, and fully appreciate the difficulties

which were encountered in giving correct representations of these drawings, and the easy manner in which those less versed in the subject might have been led astray by those natural markings which exist side by side with the inscriptions.

MEDIÆVAL TRAVELLING IN SOUTH AMERICA.*

THE travels of an author who, at the age of fourteen, with all the crude ideas of early youth seething in his brain, and imbued with the most anti-scientific prepossessions, ventured to commit to paper, under the auspices of Philip of Spain, the impressions of his travels, may not at first sight appear very interesting to anthropologists. We know so little respecting the life of our author, that should we reject the theory that he was one of the companions of D. Pedro de Heredia, little of accurate fact is left wherewith we can compile our note-books, or found our hypotheses respecting him. But we have the one important fact that he was the first European traveller on the western coast of South America, who gave to a then credulous and admiring world, more or less reliable information respecting the inhabitants of that portion of the American continent.

The question ever and anon presents itself to our mind, whether the saying of Mephistopheles is not true after all; mankind merely advances in a spiral direction; our knowledge of the anthropology of South America is scarcely in advance of that of the mediæval explorers. Many districts—Mr. Markham especially alludes to the Cauca—have not been described by later explorers with the same completeness as by Cieza de Leon; and to those who remember Padre Fray Pablo Simon's interesting description of the Huallaga, modern explorations of the headwaters of the Amazon will appear uninteresting. Taking as a standpoint the period immediately subsequent to the Spanish conquest, the questions which crowd in upon the reader of Cieza de Leon are numerous and manifold. Does this writer give us accurate and extensive information respecting the nations who preceded the great civilising and unifying influences of the Quichuan inhabitants? Do the writings of Cieza de Leon afford us reliable facts whereon to admit or to reject the theory of the

* The Travels of Pedro de Cieza de Leon, A.D. 1532-50, contained in the first part of his Chronicle of Peru. Translated and edited, with Notes and an Introduction, by Clements R. Markham, Esq., F.S.A., F.R.G.S. London: printed for the Hakluyt Society. 1864.

existence of Pre-incarial rulers prior to the advent of the worshippers in the temple of Pachacamac? Does he throw any light upon the great mysterious problems of South American archæology, the date and lineage of the builders of Tia-huanaco, or the possible nucleus of truth which may exist respecting the mythical legends of Manco Ccapac? On such topics as these, the light which Cieza de Leon has transmitted to posterity is but indirectly thrown; nor do his pages afford many facts on which to criticise the generalisations of Rivers, Tschudi, Bollaert, or even Prescott.

At the time when Cieza de Leon visited this country, he found numerous tribes of Indians over the whole of Nueva Granada and Peru. Diverse characters distinguished their physical organisation. There were the Quichuas—with their high acrocephalic heads, their long plaited black hair, their scanty beard, thick lips, high but receding forehead, large and aquiline nose, and small chin. Their physical characters survive, even in spite of the definition of them by D'Orbigny, in his *Homme Américain*. Mr. Markham tells us:—

"In the temperate valleys of central Peru were the Quichuas, the most powerful and civilised of all. To the eastward of them were the savage Antis and Chunchos in the great tropical forests. To the south were the wild shepherd tribes of Canas, Canches, and others; and still further south were the more civilised Aymaras, struggling against the difficulties of a rigorous climate. To the westward of Cuzco were the warlike Chancas, Pocras, Huancas, and other tribes; and on the coast were numerous tribes known to the Yncas by the collective name of Yuncas. Finally, in the kingdom of Quito, among others of less note, were the nations of Caras, Puruaes, and Cañaris."

We absolutely know nothing about the physical character of the majority of these tribes. The skulls of the Quichuas have indeed been accurately described as presenting, in common with the majority of the skulls of the Indians of the west coast of America, a brachycephalic sugar-loaf type. They have been contrasted with those of the Aymarás, the only western South American nation whose cranial form is essentially dolichocephalic. And here it should be observed that we speak of those Aymará skulls which do not present any well recognised evidences of artificial distortion. Such are not of course the skulls from Titicaca, but those which still exist of those surviving inhabitants of the old Aymará country who do not retain the habit of artificial cranial distortion. When, however, we turn to such tribes as the Antis, we are perfectly ignorant of their cranial form; and the further we go, either southwards or eastwards, the more ignorance of cranioscopical facts encounters the anthropologist. It is not until we reach Rosario, in the Argentine Confederation, that we arrive at a locality, the character of the skulls of the inhabitants of which has

been defined. Mr. T. J. Hutchinson has been the first Englishman to afford us reliable information on this topic.

Some zoological errors disfigure this translation. Mr. Markham states:—

“The most ancient traces of the American race have been found on the Pacific coast, in the shape of *middings* or refuse heaps, similar to those in Denmark. These *middings*, which have been examined by Mr. Spruce at Chanduy and Amotape, consist of fragments of pottery, sea shells, and crystal quartz-cutting instruments. They are the remains of a very ancient people of what is called, in European archæology, the stone age; and they suggest the possible existence of man in South America, contemporaneously with the post-pleistocene fossil vicuña of Corocoro. Be this how it may, there can be no doubt that the coast valleys of Peru had been inhabited for many centuries by Indian communities, which had made gradual progress in the improvement of their condition.”

The animal here referred to is the *Macrauchenia patachonica*, which was originally described by Professor Owen from Darwin's Patagonian specimens, and afterwards discovered by Castelnau at Tarija in Bolivia. Similar specimens having been discovered in Bolivia by Mr. Forbes, a temporary confusion arose as to the specific name by which these specimens should be described, but we must remind Mr. Markham that the name *Macrauchenia Boliviensis*, which he adopts in his xxv page, has since 1861* sunk to “the limbo of all hasty blunders.” There are four objections, however, which we have to make to the above passage—Firstly, the *Macrauchenia* is not a vicuña, nor even allied to any llama except by the vaguest possible affinity; secondly, the beds in which it is found are not demonstrably proved to be “post pleistocene”; thirdly, Corocoro is not a locality to which it is peculiar, or in which it is common; fourthly, we fail to see how the occurrence of quartz chips at Chanduy in a shell mound can be in any way correlated with the discovery of fossil bones at Corocoro, about one hundred and twenty miles distant. We are afraid that the advocates of a very high antiquity for the human species in America must search for some more exact evidences on which to found their hypotheses.

The following passage occurs on the xxiv page:—

“One important test of the capacity of a people for civilisation is their ability to domesticate animals. The inferiority of the African, as compared with the Hindu, is demonstrated by the latter having domesticated the elephant and made it the useful and hardworking companion of man; while the former, during the thousands of years that he has inhabited the African continent, has never achieved any such result, and has merely destroyed the elephant for the sake of his ivory tusks.”

* Annals and Magazine of Natural History, June 1861.

We believe that Mr. John Crawford was the first to adduce this absurd argument,* when he stated that "the African elephant, although specifically distinct from the Indian, in all probability possesses the same docility, sagacity, and capacity for servitude, yet it is remarkable that no negro nation has ever tamed it," etc., etc., *usque ad nauseam*. Considering that the African elephant (*Loxodonta Africana*) is not merely specifically, but generically distinct from the Indian species (*Elephas Indicus*) and that we have never had a shadow of experience as to its docility or sagacity, we fail to see that, *ceteris paribus*, the domesticity of the two species can be considered as amenable to the same laws. The fact must also be remarked, that the tusks of the African elephant usually exceed both in size and weight those of the Indian elephant.

Mr. Markham's own observations, however, contrast exceedingly with those which he has adopted from other and less reliable authorities. The success of his grand experiment for the naturalisation of the *Chinchona* plant in India has earned him the gratitude of the European medical profession. He is most at home in the philological portions of the work, in which the author of the *Quichua Grammar and Vocabulary* may naturally be supposed to be able to throw most light on anthropological requirements. The work in many respects is of great value, inasmuch as it affords us a clear picture of the state of mind of the natives, unsophisticated by the absurdities which were foisted in upon Peruvian anthropology by the early missionaries and travellers. The statement has been ever and anon inserted into our popular text-books that some aboriginal natives of South America exhibit, when interrogated by the European traveller, a knowledge of the existence of a universal deluge within their own territory, and by which their ancestors have been partially exterminated. When, however, these traditions are subjected to the scrutiny of careful examination, there is always found some admixture which is due to the influence of the questioning traveller. Any one who has had practical experience with American savages knows that, for a small present, they can be easily prevailed on to narrate the most improbable traditions, or to declare their belief in the most recondite points of faith. Again, the common practice of the native, who when interpellated, drawls out, "Si, señor," to every question put to him, renders the attainment of any positive result to the interrogatories almost unattainable. Mr. Markham wisely rejects all these traditions, as well as some of the more improbable statements of Herrera, Montesinos, and Garcilasso de la Vega. The broad facts, however, remain, that we have distinct

* Trans. Ethno. Soc., new series, vol. ii, 433.

evidence at the most remote period on which history can throw a light, that the whole western coast of South America was inhabited by hosts of natives, the majority having distinct physical and psychological characters; that we have sufficient facts on which we can engraft the surmise that for centuries prior to the Spanish invasion, these natives have existed, in some instances attaining a very high state of civilisation, especially exemplified by their architecture; but that the defective historical materials at our disposal preclude us from arriving at any conclusion as to the period at which many of the events in Peruvian history took place. This is the scanty record which is left to us by three centuries of the bloodstained annals of South America since its conquest by the malevolent and tyrannical Spanish *conquistadores*.

The chief fault which we find with Mr. Markham is the manner in which he has exercised the responsibilities of Editor, and has omitted frequent passages, and in one instance a whole chapter, on the grounds that these portions were "unfit for translation." We cannot consider that the editor was justified in this course. Some of the customs of nations, which at first sight may appear to be obscene, have the greatest possible bearing on the science of descriptive anthropology. The rites of marriage, the worship of the phallus, the act of circumcision, are observances which should be carefully and systematically noted and described. Those who have deepest at heart the advancement of the science of anthropology will not wish to evade these questions; but will investigate them calmly and reverently. To the pure all things are pure; to the anthropologist all things relating to man have to be investigated. No blush can be justifiably raised excepting on the cheeks of those who have already conceived impure thoughts; and we trust that no editor of any scientific book of travel will ever again reduce the record of a careful and dispassionate observer like Cieza de Leon to the similitude of the most indecent of all compilations—Bowdler's Shakespeare. The effect of this emasculating process is inoperative on morality; with the vast number of inquiring and frequently sensual mankind, it causes a run upon the original edition, and a frequent reference to the pocket dictionary. The fact that in the British Museum reading room, when the Italian dictionaries are, as usual, missing from their accustomed shelves, the inquiring reader may most often find them in juxtaposition with a turned down copy of Boccaccio's *Decameron*, or Graglia's edition of Martial, is significant; whilst the painful truth that the copies of Rabelais and Petronius Arbiter in the National Library are almost worn threadbare, ought to have warned Mr. Markham not to direct by suppression the reader's attention to indelicacies which otherwise

would have been passed over in silence. This defect is very patent to anthropologists; but however grave, it cannot permanently detract from the acknowledged merits of Mr. Markham's excellent translation.

TEXT BOOKS ON ANTHROPOLOGY.*

THE posthumous work of Professor Karl Schmidt is based upon the "Anthropological Letters," written in 1852; but, as the editor M. Oehlmann informs us, is in fact quite a new book.

The first volume consists of *The History of Anthropology*, and in true German style is about all and everything. It is the genuine *History of Man*: for it is concerned with everything which man influences, and by which man is affected. All nations have had their Anthropology; but how will not our orthodox readers be rejoiced with a chapter *On the Anthropology of the New Testament*, or *Jesus Christ and the Anthropology of St. Paul*! Hence, through the Cabala, Philo, and Neo-Platonists, we pass to the schoolmen, through the metaphysical age of Europe down to Kant, and end with John Stuart Mill!

Then we have a long chapter on *The results of the present anatomical, physiological, and ethnographical discoveries*; and a most disproportionate digression on phrenology and physiognomy. This is indeed the province in which the author seems most at home, and as the second volume consists almost entirely of anatomical, or physiological matter, it seems subject of regret that the original title and conception of the book should have been altered to the more ambitious one, which it has no pretence to satisfy.

The ethnographical portion is quite beneath criticism, and we are astonished to find in a learned work that "bleeding roast-beef, fat puddings, brandy and porter, denote the nationality of every son of Britain."

Dr. Schmidt cannot claim to have written a good text book on Anthropology. We do not look under such a title for a meagre history of metaphysics, or rather a catalogue of some of the principal writers thereon; and though there is nothing to say against the anatomical portion of the work, and though the woodcuts strike us as

* Die Anthropologie: Die Wissenschaft von Menschen in ihrer geschichtlichen Entwicklung und auf ihrem gegenwärtigen Handpunkte. Von Prof. K. Schmidt. 2 vols. Dresden: 1865.

peculiarly elegant, still in all this there is nothing new, even in Germany.

A better hope is held out by Dr. Reich, the first portion of whose work on *The universal science of man*,* has just reached England, if indeed the performance comes up to the boasts of his prospectus. "The author, whose name is known far beyond the limits of Germany, will in his new work lay a foundation on which naturalists and philosophers, physicians and statesmen, teachers and moralists, and all whose interest lies in the study of man, may come together, join hands, and unite." The part we have in hand is taken up with metaphysical discussions on the nature of the soul, with very long extracts from the opinions of the ancients on that subject, and on the position of man in the universe. But Dr. Reich, as he says, "does not bind himself to any chronological order," and the views of Buckle, Büchner (with whom he seems principally to agree), Erdmann, Philo, Lenz, and Huxley, are all pressed into his service as he thinks fit. Altogether, whilst we look with interest for the remaining part from Dr. Reich, we cannot allow that he has been hitherto much more successful than Dr. Schmidt.

The increasing number of books bearing the superscription of this science inspires, however, a hope that before long some durable *Elements*, or *Principles of Anthropology* will be produced. The great mistake to be avoided in such an undertaking is the attempting too much; and the incorporation into the general plan of such isolated portions as the anatomy or physiology of man, which have as everyone knows been already elaborated in a thousand treatises, and for which no one would look under a name which must include much that is entirely independent of all considerations of the physical nature of man, much that is conjectural, and much that is new. However arduous, and indeed hopeless as some would say, such a task must be, no science can be fairly said to take its place as such until it has its acknowledged text book to refer to, as denoting its sphere, and the way it can be taught, or learnt. Not that it is necessary for success that the first grammar of Anthropology should be unimpeachable either in its method or its aims, but that the solitary student should feel satisfied that having mastered its details, his labour will not be entirely thrown away. It is only after a long series of attempts that any science can hope to have its works of reference or its elementary treatises brought to that perfection for which the example of the most advanced branches of knowledge has caused a demand. But young anthropologists should not stand by in idleness till the work is done

* Die Allgemeine Naturlehre des Menschen, etc. Von Eduard Reich, Med. Dr. Erste dieferung. Giessen: 1865.

for them. The opportunity of associating their names with a new science will probably never occur again, and next to the production of a successful novel, there is perhaps nothing so lucrative as the construction of a sound and well-digested text-book.

PROCEEDINGS OF THE PARIS ANTHROPOLOGICAL SOCIETY.*

At the meeting of December 3, Dr. Pruner-Bey read a very elaborate paper "On the Asiatic origin of Europeans," which was followed by an essay "On the Ethnic Elements of Europe," by M. Lagneau. Neither of these papers admits of an abstract, which we regret the less as the more salient points are touched and commented upon by M. d'Omalus in his reply.

"On the Cranium of Schiller and the cubic index of Crania."

At the meeting of March 17, Dr. Broca, in exhibiting a drawing representing the profile of the cranium of Schiller taken from the second edition of Carus' *Cranioscopic Atlas*, said: The Society will remember that in our discussions on the brain, three years ago, conflicting opinions were expressed relative to the volume of the cranium of Schiller. The contemporaries of that great man said that he had a very large head, and M. Gratiolet in his *Anatomie comparée du Système nerveux* repeated this assertion. But as he had since an opportunity of studying the profile of the cranium of Schiller in the first edition of M. Carus' *Atlas*, he found that the antero-posterior diameter measured only 190 m.m., and thus did not exceed the average as observed in dolichocephalic crania. I then observed that this test was insufficient, inasmuch as the volume of the cranium depends as much on its width and height as in its length. The main question remained, however, unsettled.

The table of measurement which is now added to the second edition of M. Carus' *Atlas* enables us to solve this question. The measures are expressed in inches and lines, the width of the parietal region of the cranium of Schiller amounts to 5 inches 10 lines, equal to 158 millimeters. This cranium is consequently not dolichocephalic; it is, on the contrary, brachycephalic, for the antero-posterior diameter is, as stated by M. Gratiolet, exactly 190 m.m., and in comparing the two diameters we find a cephalic index of 83.16 per cent.

This cranium is, moreover, greatly developed in the vertical line; the

* Continued from vol. ii, p. 161.

elevation of the vertex above the meatus auditorius is 140 m.m.; and in the 450 crania of which I have drawn the profiles by the cranio-graph there is not one in which this height exceeds 131 m.m. The vertical diameter of Schiller's cranium cannot be measured in the drawing, but this measure always exceeds the preceding elevation by from 7 to 23 m.m., and this fully agrees with the number of 149 millimeters given in Carus' table as the height of the parietal region, that is to say, the vertical diameter of Schiller's cranium. . . . In my researches on the relations which may exist between the capacity of the cranium and its external dimensions, I am in the habit of using the product of the three diameters as a term of comparison. Experience has shown me that this product gives in centimeter cubes the volume of a solid a little above the double of the internal capacity of the cranium. The difference between these cubic measures is always in favour of the former, and far from being fixed; but it only oscillates within very narrow limits. It results herefrom that a moiety of the product of the three diameters gives an approximative idea of the cranial capacity, for which reason I have denominated it the cubic index of the cranium (*indice cubique du crâne*).

By multiplying the three diameters of the cranium of Schiller ($190 \times 158 \times 149$) we obtain the product 4472^{00} 98, which gives a cubic index of 2238.48 centimeter cubes.

In a catalogue which I shall present to the Society, I have carefully noted all the dimensions of the 600 crania in our Museum. Excepting one single cranium, the cubic index of which amounts to 2274^{00} all the rest give a cubic index below 2056.

This exceptional cranium No. 16, in the series of Parisian crania of the nineteenth century, is evidently pathological; the parietes are very thick, and though half of the face is wanting, the cranium weighs 1249 grammes, that is, double the weight of other crania. The heaviest negro cranium in our museum weighs only 970 grammes. The heaviest European cranium in our collection, excluding No. 16, weighs only 923. The cranium No. 16, despite the extreme thickness of its parietes, is nevertheless the largest of the 600 crania I have measured, having an internal capacity of 1885^{00} . I am disposed to think that it belonged to an individual affected with cerebral hypertrophy; be this as it may, it is only necessary to state that it deviated considerably from normal conditions.

Setting aside this exceptional cranium, we find that the cubic index of the cranium of Schiller notably exceeds that of any other cranium in our museum, which sufficiently establishes that this cranium is one of the largest hitherto measured.

M. Gratiolet here observed that, when speaking of Schiller's cranium,

he had only before him the drawing of the profile as given by Carus. He then said that this cranium was distinguished by the admirable harmony of its outlines, the majestic form of the forehead, and by a facial angle approaching a right angle; but he added that the antro-posterior diameter presented nothing remarkable, and that the aspect of the profile did not indicate a very large cranium. The document now published by M. Carus modifies that conclusion, since it appears that the transverse diameter of the cranium is very considerable. He must, however, remark that the size of the cranium varies according to the regions, and that the width of the parietal region may be accompanied with a retraction of the anterior region. We must also observe that the average of external cubage employed by M. Broca wants precision. The cranium varies so much in its shape and thickness, that the product of its three external dimensions can give no exact idea of its capacity.

M. Broca replied that Schiller's cranium was far from being contracted in the frontal region, the width of the forehead at the level of the eyes being 119 m.m., about 15 m.m. above the average. The maximum width of the frontal amounts to 131 m.m. The cranium was thus very large in all its proportions. As regards the objection of M. Gratiolet to the process of external cubage, he had at the outset declared it to be merely approximative. After showing the results he obtained by employing his process in the measurement of the collection of crania belonging to the society, proving that the cubic index is really more approximative than he at first supposed, Dr. Broca concludes thus:—"The largest cranium of the Mortonian collection at Philadelphia is that of a German, measuring 114 cubic inches, equal in French measurement to 1867^{cc} which is less than the minimum capacity which can be assigned to Schiller's cranium. This cranium is thus very large, and I repeat we have reason to think that it exceeds in capacity all such which have hitherto been measured."

On the resumption of the discussion on Indo-European origins, the Secretary read the subjoined letter, addressed to the Society by M. d'Omalius d'Halloy.

"As at our last meeting the hour was too far advanced for me to reply to the learned discourse of M. Pruner-Bey, and as I had to leave Paris, I take the liberty of addressing to the society the following remarks, whilst acknowledging that my octogenarian memory will not enable me to touch upon all points, so that my notes may appear rather incomplete.

"I shall perhaps be better understood by premising that I consider the first distribution of human races to be a question beyond the reach of our present state of science. The palæontological documents re-

lating to man are confined to some discoveries lately made in the north-west of Europe, and do not carry us to periods anterior to the actual condition of the globe. Palæontological researches have, no doubt, in the course of this century yielded unexpected results, but apart from the circumstance that they have scarcely been applied to man, we must bear in mind that they have only been effected on a very small portion of the surface of the globe, so that we must be very cautious as regards any negative inferences in our hypotheses. The hypotheses may be ranged in three categories, which I call historical, philological, and natural.

"As regards the historical hypotheses, they are, in my opinion, only founded upon some badly interpreted texts or some mythical notions.

"As regards linguistics, I have already said that I have a great respect for that science so long as it keeps within its limits; but when it is proved that a people may change its language, and believing, as I do, that languages are formed by the use man makes of them, and that they are not like the songs of birds, a simple result of the organisation, my opinion is that we should be very reserved in judging of the filiation of people from the language they speak.

"As to the hypotheses I call natural, I have already indicated that they consist in the supposition that things have gone on formerly as they do now, and that in periods immediately preceding historical documents, the people dwelt already side by side as they did at a later period.

"If my memory serves me right, M. Pruner-Bey stated at the beginning of his discourse that the migration of the people of the east towards the west was generally accepted as an article of faith, but surely this is no proof that this opinion is well founded; I moreover believe that this theory is a modern creation and is not found prevalent among the ancients.

"He then mentioned the Magyars and the Turcs, but my questions do not concern these people, the Asiatic origin of whom is sufficiently proved, and who in my opinion form an exception, tending to disappear; for the Magyar and Turkish population diminish in Europe, whilst the European populations surrounding them continually increase.

"M. Pruner-Bey stated that the Phrygians were the ancestors of the Greeks, but he has not told us upon what his theory is founded, nor do I remember having heard of it before. But, supposing it were so, this would not prove that the Greeks came from Central Asia; for the western portion of Asia Minor being separated from Greece by narrow channels, the conquests and the wars which the inhabitants of these countries carried on in Greece were, so to speak, civil wars.

"Our colleague then endeavoured to prove that the Scandinavians

were not indigenous of Scandinavia. No person contests this at present; but the circumstance that they have come from the south does not prove that they came from Germany, where there are people of the same type.

"M. Pruner-Bey supports also his theory by the assumption that all our domestic animals are natives of Asia; but without dwelling upon the doubts raised in this question by Palæontology, I should say that such would be the case even if the ancestors of the Europeans had not come from Asia; for, as it is unquestionable that the south-west of Asia has been civilised before Europe, it is from that portion of the globe that man could obtain animals for his domestic use. I must also say in reference to animals, that if the Scandinavians are natives of Asia, it is astonishing that their mythology makes no allusions to the camel or the elephant. With regard to the traces of Asiatic civilisation met with on the coasts of the Atlantic, they are more easily explained by the commercial relations of the Phœnicians than by the arrival of Asian conquerors, who were themselves hardly civilised. On the other hand, we cannot say that the trading Phœnicians were sufficiently numerous to change the blood of the populations; if it had been so, they would have imported a Semitic and not an Asian language. Our learned colleague has also noticed the immigrations which have taken place in the British Islands; but instead of making these immigrants come from Central Asia it seems to me more simple to adopt the opinion of Tacitus, who assigns to the Silurians the black hair and black eyes of the Iberians, and to the Caledonians the light hair and the blue eyes of the Germans.

"Like the greater number of modern authors, M. Pruner-Bey derives the Celts from Asia, and he sees the traces of their passage in the Celtic population between Asia and the Atlantic; but apart from natural considerations, the historical documents are opposed to this theory, for all the invasions of the Gauls proceeded from west to east. I admit, nevertheless, that the Celtic question is obscure. Induced by the opinion of Desmoulins, I thought at first that it was a people of a dark type with black hair, but I soon found out the Celts were of a fair type. With regard to their language, the general opinion is that it belongs to the same group as that of the Bas-Bretons, the Welsh, the Irish, and the Scotch Highlanders. But in this hypothesis it is very difficult to admit that a race so energetic, so numerous, who have made so many conquests, should have disappeared from its native countries, and been driven to some mountainous region. I think, on the contrary, that these difficulties are removed by adopting the opinion recently sustained by MM. Holzmann and Renard, who look upon the Celts as Germanic people. . . . The objection drawn from the fact

that at Cæsar's time the Celts differed from the Germans, has, in my opinion, no more value than that which denies the Francks to have been of Germanic origin, because the French of the present time differ from the Germans. I know not what language the Gauls spoke at the time of Cæsar, but the facility with which they adopted the Latin idiom indicates that a conflict arose between the language of the conquerors and those of the people whom they vanquished. By this assumption we may, perhaps, explain the names and the characters which Cæsar ascribes to the inhabitants of the three great geographical divisions of Gaul. He called Celts the population between the Seine and the Garonne, because it is there that the conquering Celts, intermixing with the vanquished people, acquired a peculiar character. He has given the name Aquitanians to the populations south of the Garonne, because then, as now, the Iberian element greatly preponderated. And finally the Belgians north of the Seine distinguished themselves from other Gauls, since, being nearer to Germany, the Germanic element was more abundant.

"As regards the Germans proper, I do not remember that M. Pruner-Bey mentioned the time of their arrival in Europe nor the population they displaced; but I think he considers their Asiatic origin as demonstrated, which induces me to cite two passages of Tacitus:—"With regard to the population (of Germany) I believe it to be indigenous, and free from intermixture with foreigners either as settlers or casual visitors (M. Ger. c. ii). . . . I concur in opinion with those who deem the Germans a pure race who have never intermarried with other nations." (id. c. iv.) These two passages confirm my propositions if, instead of the word *indigenous* we substitute, have inhabited the country since the last geological revolution."

M. Liétard then read a paper "on Arian Migration," followed by an essay "on the origin of Europeans," by M. Bonté, after which the discussion recommenced.

M. Dally: I have no intention to exhaust the question; I merely wish to state the impression produced on myself by all that I have heard in this discussion. I have attentively listened to the communication of Messrs. Pruner-Bey and Liétard, but I am bound to say that the propositions of M. d'Omalus still persist in their integrity, and that no solution has been given to the questions he proposed. I was much struck by the multiplicity of documents cited by M. Bonté in his paper, but I could not well comprehend their bearing, nor has he demonstrated that the Europeans are descended from an Arian stock, which came from Asia and has since disappeared from Europe.

Where is the proof of this? Is it in linguistics? Is it in that language preserved intact in India, now found degenerated in Europe?

But it is by no means inadmissible, that a language originating in Europe may have been imported into India or any other part, into Bactria, for instance, and may there have preserved its purity whilst it was altered or even disappeared in other parts of Europe. Though philology may give us proofs of the intimate connexion which existed between certain languages, it has no longer the same force when applied to the origin of peoples. In respect to the existing differences between European populations I accept the explanations of M. Broca, and I confess that I no longer understand what is meant by a race if you give the same origin to Portuguese, French, Russians, Germans, etc. I am much disposed to express the same reproaches which have justly been addressed to me, when, from want of profound study, I, in one of my papers, confounded into one all the American populations. In the sense I take it there is no Arian race the primary stock of European populations; but if in reality there be one, I ask with d'Omalius, whence it came? From India? here arises the question of acclimatisation. How can we explain that an acclimatisation deemed impossible at present was possible then? Did it come from Bactria? how does it come to pass that we find no trace sufficiently pure to be affirmative? I must, therefore, for the present, accept the opinion of d'Omalius d'Halloy, and believe with him that Europeans are natives of Europe.

M. Pruner-Bey has mentioned an opinion which has several times been refuted, namely, that there exists a certain analogy between the migrations of peoples on the surface of the earth and the atmosphere, and maritime currents, but nothing shows that they had, *ab ovo*, followed the direction from east to west. I persist, therefore, in asking for the primary stock; has it been demonstrated? I ask M. Bonté what are the Sia-posh of whom he speaks? Where are the fair-complexioned Afghans whom he cites? Is it the expression of mere coloration, or of an *ensemble* of characters constituting peoples different from others? Nor do I think the question has been solved by the induction of civilisation and domestic animals as appealed to by M. Pruner-Bey, nor by the mythological studies of M. Liétard. They may serve in the indication of certain epochs, but afford no incontestable proof of the first origin of European nations.

M. Bertillon: I wish that members would not engage in hollow discussions which lead to no solution, but keep to the question, whether the origin of European nations is to be sought for in Asia or in Europe. M. Dally has just said that there are no longer any Arians in Bactria; does it follow that they did not exist there at a certain time? The disappearance of a people is by no means a rare phenomenon, as it happened in more recent times. As to the phe-

nomenon of acclimatisation, alluded to by M. Dally, it must be observed that there is a distinction between slow progressive movement and the absorption of peoples, and such movements as a European population returning to India. In these two cases the results would certainly differ. The dissimilitude now existing between the European nations may be well explained by successive intermixtures, and is quite compatible with the assumption of a primary Eastern origin.

M. Bonté: M. Dally pretends that I have spoken of light-complexioned Afghans in my *Resumé analytique sur l'influence du milieu*; this is an error. It is true, that in his table of 1863, he makes me say so; but on referring to the page which he cites, he will find that I said nothing of the kind. Fraser, Prichard, and Elphinstone certainly speak of fair-complexioned Afghans. As to the assertions of our colleague that the character, *fair or brown*, has no value; it amounts to the same thing as to say the *constitution* is no character. If it were as he says, we should not be so anxious to ascertain whether this or that nation were fair or dark-complexioned. The importance of this question is manifest from what has been said of the character regarding the Celts only. Our colleague will also see that it is chiefly by the difference of coloration that the races in Gaul have been distinguished.

M. Liétard: In admitting without discussion the common origin of Europeans, I did so because M. d'Omalus said that we were all agreed upon that point, with this difference, that he placed it in Germany whilst we placed it in Central Asia. In support of my opinion I appealed to comparative mythology, which appeared to me a productive source for obtaining proofs. We find, in fact, amongst the Greeks and Latins the same mythological traces which formerly existed in India. To cite only one instance, I may observe that the medical divinity to which the Greeks sacrificed was already represented in Indian mythology.

M. Bertrand: There are certain facts which I am astonished to hear still discussed. In speaking of Arians we are not so much concerned to learn in what proportion they came to Europe; but what was the result of their introduction, and everything leads to the belief that civilisation came from Asia. In Greece, Italy and Germany, about seven hundred years before the Christian era, we find only rude traces of a civilisation much inferior to that in Phœnicia, and generally among the peoples approaching the Indus. But in assuming that civilisation came to us from India, the question arises, how it came. This question belongs to anatomical anthropology, which alone can tell us whether an Arian immigration has intermixed with

a pre-existing European population less civilised, and of whom we are the descendants. In any case, we must not confound races with civilisation, which are perfectly distinct. I have studied a considerable portion of monumental Europe, and I found that by the side of monuments and palaces generally elevated on the banks of rivers there existed tumuli of altogether different characters. It seems to me, therefore, very probable, that two civilisations existed side by side, the one belonging to the soil the other imported, and that the latter more advanced had its birth-place in the East whence it came to us, and the progress of which we have to study.

M. Broca: The interesting lecture of M. Liétard certainly left upon me the impression that there existed between us decided differences, but the explanation which he has just offered convinces me that we agree as to the main points. Like most members who have spoken on the question, M. Liétard admits that Europe contained indigenous populations before the commencement of the Indo-European era. On the other hand I agree with him, that according to the testimonies of linguists, archæologists and historians, the Indo-European languages and civilisation came to us from Asia. This double starting-point being admitted, we may easily come to a good understanding. I must, however, in the first place, reply to some observations of our colleague, M. Bertrand. I am happy that he makes a distinction which appears to me indispensable, and which I endeavoured to lay down at the commencement of our discussion. I then asked: Whence came the races of Europe? I answered from Europe. Whence came the European languages? I answered from Asia. I concluded, therefore, that the question should be divided; that race was one thing and language another thing; and that the objections raised by the second proposition of M. d'Omalius d'Halloy touched neither the first nor the third question.

M. Bertrand has spoken to the same effect, and I am glad to find that we agree in this respect, although we have started from different stand points. . . . The distinction between two questions, which have unfortunately been confounded, seems to M. Bertrand so natural that he is astonished to find that anthropologists still discuss so simple and demonstrated a fact as the Asiatic origin of the European languages. I reply that this truth would have met with a different reception if inferences had not been made tending to decide the question of the mutability of types, one of the most contested questions of general anthropology. Two theories were started. One endeavoured to establish by direct observation that types were permanent; the second, on the contrary, maintained that modifications were produced by external agents too slow in their action to be per-

ceptible after a few generations, but which, after the lapse of many centuries, must induce a transformation of types. It was then that philology or rather linguists interfered. They said: All Indo-Europeans speak the same language; they are consequently descended from the same stock. . . . And as these numerous peoples inhabiting different zones present very different physical characters and constitute several distinct races, it has been inferred that the influence of climate has in a great degree modified the characters of the primitive race. This argument has been frequently appealed to by M. Pruner-Bey and others before him, and it is certainly the most important of all arguments which have been invoked in favour of the mutability of human types.

On the other hand, the partisans of the permanence of types had before them facts opposed to this argumentation. They had to choose between natural history and philology, and gave preference to the former, whilst the linguists preferred the latter. This is the point from which our discussion started. Our eminent and venerable colleague, D'Omalus d'Halloy, put the question whether a linguistic datum can be considered as correct, which appeared to be in contradiction with a series of well observed facts. I replied from the first that the contradiction was not real. Philology and anthropological observation are two sources of information equally precious. The British Islands, without speaking of modern conquerors, contain, from time immemorial, a brown and a light race, who despite the uniformity of the climate, have preserved the diversity of their characters. Here, then, we have an absolutely positive fact. These two races speak languages issued from a common stock; here is another positive fact. But it is quite clear that two truths cannot be in contradiction to each other. In the particular case before us a theory is only then valuable when it reconciles the testimony of observation, shewing that the differences of races in Indo-European peoples cannot be attributed to the influences of media, with the testimony of philology and archæology, which establishes between these peoples a community of languages and civilisation.

Such a conciliation is not only possible but easy; it is sufficient to assume that Europe was already peopled before the invasion of Asiatic conquerors, and that the latter necessarily infused their blood into the vanquished. Everything is then easily explained. The triumph of language and civilisation becomes then a fact as natural as the variety of types resulting from the unequal mixture of races. We must not judge from the present to the past. With their formidable civilisation, their means of destruction, their floating cities wafted by steam, Europeans invade islands situated at the anti-

podes, inhabited by wandering brutalised savages—the two extremes of the human series—meet; and if the invaders, whose numbers increase by constant additions, consider it to their interest to destroy the autochthons, they easily effect it. Hence there are no Tasmanians in Tasmania. It would have been different if these unfortunates had been able to render some service to the English colonists, or if they had only possessed that degree of intelligence which renders the Negroes valuable as slaves. There would also still be Tasmanians if they had inhabited a spacious continent, so that they might have retired before their aggressors like the red skins of America. In order that a race should be exterminated it is not sufficient that it should be attacked by a stronger and more intelligent race, but the inequality must be excessive; and the conquerors must continually receive reinforcements.

If one of these conditions be wanting, the autochthonic race will persist, more or less modified in its manner, knowledge, language, and physical characters; but as it is numerically superior, the foreign blood becoming more diluted in every generation, is sooner or later absorbed in the indigenous blood, and the mixed race will approach much more the type of the vanquished than that of the conquerors, though the latter transmit their name, language, and civilisation. Or may be the two races are at a given point numerically equal, then the two types will persist; they will constantly reappear amid mixed types, and will be found side by side after the lapse of many centuries. It has just now been asserted that the Etruscans had disappeared from the earth; that nothing was left of them save archaeological and historical souvenirs. This is an error. The type of the ancient Etruscans is still living, and I appeal to M. Perrier, who two years ago had studied and visited the population of ancient Etruria.

Let now M. Liétard ask himself whether it is admissible that the first Asiatic invaders, generally named Celts, have destroyed the autochthonic populations to the last man. Where were the conditions which rendered such an extermination possible? As regards type, the differences between the indigenous and foreign races were but little marked. The Basques and modern Fins, who have preserved their pre-Celtic language, and whose ancestors had mostly escaped the foreign influence, have a fair skin, an orthognathous face, smooth hair, and Caucasian features like the Indo-Europeans from Asia. The physical characters, which might establish between the Celts and the autochthons of Europe appreciable differences, are thus reduced to a few shades of colour of the eyes and hair, and this slight contrast far from exciting repugnance was on the contrary apt to excite the desires of the conquerors as regards the women of the

vanquished, and intermixture of races became thus unavoidable. As regards number, there is no doubt that the conquering Celts were much inferior to the indigenous population of Europe.

But it may be said, that in order that the Celts should succeed in conquering a continent already inhabited, their numerical superiority must have been compensated by an immense intellectual superiority. The autochthons must have been brutal savages, incapable of resistance, and thus exposed to destruction like the Tasmanians. It is true that the autochthonic races were still in a state of barbarism; they possessed but scanty knowledge; but they were intelligent and improvable. Anteriority of civilisation does not prove absolute superiority of intelligence and aptitude. The Egyptians have in civilisation preceded the Greeks, Romans, and modern Europeans, but no one will maintain that the Egyptian race is more intelligent and perfectible than the races of Europe. But granting that the Celts were superior to the autochthons in intelligence and perfectibility, M. Liétard must also admit that the difference was not very great; for the Basques and Fins, whom he considers as the only actual representatives of the pre-Celtic races, may well sustain the comparison with the Indo-European peoples. . . . The Celts did not bring with them an irresistible civilisation which absorbs everything, and at the contact of which the superior races vanish. Their civilisation was rudimental. They had no written language, no history, and nothing would be known of their first migrations were it not for modern archaeological and linguistic discoveries. They had large domestic animals, and some cereals, but they were nomades, were not attached to the soil, and did not constitute great nations. It seems that they knew the use of bronze—at least at the time they arrived in the western regions of Europe where metals were unknown before. In this, perhaps, consisted their chief superiority, as they could only be opposed by weapons made of wood, bone, and stone. They knew nothing at that time of the use of iron, without which it is difficult to cultivate the soil and construct towns. No doubt the autochthons of Europe were less advanced, they lived yet in the stone period; but the difference subsisting between the two civilisations was so little marked that for many archaeologists the distinction between the Celtic and pre-Celtic monuments rests exclusively on the presence or absence of bronze.

Thus the superiority of the Celts, although real, was nevertheless not considerable; the vanquished had only to advance a single step to equal their conquerors. Under such conditions extermination is impossible; sooner or later the races become fused. The mixed nation resulting from this fusion, by adopting the language, customs,

and the nationality of the foreign race, may at length forget the existence of her autochthonic ancestors, whose physical characters continue to predominate; sometimes however, they are held in remembrance, witness the Celto-Scythians mentioned by Plutarch, and the Celto-Iberians of the Spanish peninsula.

The Celts, or rather the conquerors passing by that name, occupied the greater portion of Europe from Scandinavia to Gibraltar, from the Black Sea to the extreme end of Great Britain. It is imagined that all these conquerors formed but one people, that they spread like a deluge over the whole of our continent like the incoherent and desperate hordes which Attila led within a few years from Central Asia to the heart of Gaul. We are, however, not told where that great nation is to be found which could pour over Europe millions of warriors. I account quite differently for the diffusion of the language and civilisation of the Celts. I look upon it as a simple emigration of a pastoral and warlike people who, after crossing the Caucasus, or, perhaps, the Hellespont, settled with their herds in a corner of Europe, subjugated the natives, intermixed with them, imposed upon them their language and nationality and imparted to them their knowledge and customs.

At a later period there issued from this focus a swarm, Celts by name more than by race, who transported in their turn to other countries their language and civilisation, and thus gradually from emigration to emigration, from century to century, people, always Celts by language, but much less so by blood spread in all directions to the extremities of Europe. I of course speak here as if it were demonstrated that the Asiatics had already adopted the name of Celts when they penetrated into Europe; that this name had been transmitted intact from people to people since that immensely remote period down to Julius Cæsar; that the language of the first conquerors had everywhere remained the same, and that their nationality had everywhere been preserved along with their language. I have thus as much as possible multiplied the difficulties of my explanation. No one, however, can tell how these adventurers called themselves in Asia, nor by what name they made themselves known when first they appeared in Europe. The name of Celts occurs only at a relatively late period, and only in Central and Western Europe. It is now on philological grounds given to people who never went by that name, and on archæological grounds to other tribes who never spoke their language. Thus when we only consider such people as are known to have called themselves Celts and have spoken a Celtic language, the phenomenon of the diffusion of the same nationality and the same language becomes much simplified, and still more so when we see that among the latter the unity of language was but very imperfectly preserved.

There are two very distinct groups of Celtic languages apart from those which are lost, and which probably formed other groups. These different Celtic languages presented relations analogous to those subsisting between the French, Spanish, Italian, and other Neo-Latin languages.

Thus the population which now pass under the collective name of Celts constituted in fact peoples distinct by their nationality and their dialects. I may add that these people were frequently at war with each other; that they differed in customs, dress, and physical characters, and hence arose the frequent discussions, whether the Celts were brown or fair complexioned. The fact is that the colour of their eyes and their hair varied according to the characters of the autochthonic races with which the Asiatic element became intermixed. As regards the primitive colour of the people who crossed the Caucasus it is impossible to determine it after so many successive dilutions.

Thus vanishes the pretended uniformity attributed to the people called Celts. They possessed a common fund of knowledge, faith, and language. It is not a race which spread in Europe, but a civilisation with which, so to speak, one people inoculated a succeeding people.

I neither deny the great movements of people nor distant expeditions and conquests, nor the geographical extension of certain races. I merely maintain that most of the people who migrated in masses to implant and preserve their type in new settlements were of a European and not an Asiatic race. These migrations gave rise to more or less intense crossings, which modified to a certain degree the anthropological characters of the primitive populations, and it is even probable that such migrations took place before the first Asiatic invasion. The repartition of fair, brown, short, tall, brachycephalic, and dolichocephalic races has thus unquestionably undergone several modifications both before and after the historical period; but I feel convinced that these modifications were at no time general, and that the human fauna of Europe considered in its ensemble does not essentially differ from what it was before the introduction of Indo-European civilisation and language.

M. Dally: According to M. Broca there are no Arians now in Europe; but were there Arians in Europe at any former period? That is the question asked by M. d'Omalus d'Halloy. In historical times we find proofs of Arian civilisation, but nothing shews that a civilisation already existed before that epoch.

M. Bertrand: The archæological documents shew it.

M. Dally: They don't prove that at the period I speak of the civilisation of India might not have come from the west. I don't deny the importance of mythologies; but just as a people may change

its language so may it change its mythology. Every people chooses its religion and adapts it to its instinct and habits. I recollect having somewhere read that in the province of Guatemala human sacrifices have been associated with the rites of catholicism.

M. Gerard de Rialle : According to M. Dally there are no Arians south of the Caspian Sea ; but there are the Persians who live south of the Caspian Sea. I cannot understand upon what M. Dally bases his opinion.

M. Bertrand said that the priority of oriental civilisation is proved by the study of the beds of the soil, in which are found implements and objects of bronze, silver, and gold. If no value is to be attached to the succession of the beds it would be impossible to form any opinion whatever.

M. Hallégren says that we should not go beyond historical times, or we should be lost in the domain of gratuitous suppositions.

M. Broca : The graving upon a bone or a stone is as much history as the writing upon a parchment. The engraving upon a reindeer bone discovered by M. Lartet is an historical fact of great importance, and unquestionably quite equal in value to a fragment of Herodotus. There is one question which I must put to archæologists. Exists there any positive proof for or against the introduction of metals into Europe by Asiatics ? In studying the characters of crania we are frequently embarrassed in determining their age, and it would for us be an important point to be enabled to affirm that when a cranium belongs to the stone period it dates from a pre-Celtic period.

M. Bertrand : It appears to me that archæology is unable to give a positive reply to this question. Archæology has indeed shown that copper and bronze coincide with the Arian immigration, but it is as yet impossible to say whether the populations have not prior to these immigrations used metals.

All that the study of sepultures has hitherto established is the existence of three distinct periods :—1. Stone period coinciding with burials. 2. Stone period coinciding with incineration. 3. The period of metals.

M. Gerard de Rialle : It is possible of demonstration that the first Arians knew the use of metals.

M. Leguay : I entirely agree with M. Bertrand that the soil is the best document to consult ; but I differ with him as regards the difference in the periods of cremation and burials. In my opinion both systems were employed simultaneously. . . . This conviction is the result of my own researches in the vicinity of Paris, and which I hope to demonstrate in a work I am now preparing, and which I shall submit to the Society. I can even now affirm that burials in graves, that

is to say, without cremation, was applied to the chiefs whilst incineration was the lot of the multitude, common warriors, women, and children. In point of fact the beautiful polished hatchets, large and fine knives, and generally the fine objects which adorn our Museum, are found in the sepultures of the chiefs, whilst in the graves of the latter only fragments are found indicative of their poverty and industry. In the former we find also the large tumular stones which required the concurrence of numbers for placing them, the sacred insignia as seen in the sepulture of Varenne Saint-Hilaire, and which I have deposited in the Musée Cluny; whilst in the latter were only found the fragments of flints unquestionably shaped by the hand of man, or pieces of pottery, some sufficiently curious to make us regret the loss of a vase, for despite the coarseness of the material they denote sometimes an artistic talent in its simple execution. Fire was not excluded from the burial of a chief, but it was not allowed to reach his remains. As regards the rest, a hole dug into the earth received the few bones spared by the fire, and which were collected into a fragment of a vase. The remains were not burned on the spot, which is demonstrated by the number of sepultures of this nature which I have found; I think I have even found the stone upon which the cremation was effected in a dolmen placed in the centre of the place occupied by these sepultures. I am, therefore, of opinion that, although the form of the sepultures may indicate their age, we cannot establish a difference in the stone period between incineration and burial (at least, as regards the environs of Paris). Some preserved the bodies because they were those of their chiefs, whose memories they venerated; the remains of the greater number were, however, burned, so as not to contaminate the air by their odour.

The meeting then adjourned.

At the meeting of April 7, 1864, Dr. Gratiolet, the President, said: I beg to inform the society that Mr. George Witt, of the Anthropological Society of London, is now present. He has kindly brought us several works recently published by the London Society. I beg now to thank him for the trouble he has taken, and for the honour he has done us in assisting at our meeting. I request him to return our thanks to our sister Society of London, and to sincerely congratulate it on the great activity which it has displayed in rendering such eminent services to our science.

Ancient Cranium of a Briton of the Stone Period. Dr. Thurnam, foreign associate of the Society, sent a photograph representing the profile of the cranium of an ancient Briton, which was found in 1863 in a long barrow at Tilshead. This cranium is perfectly orthognathic and dolichocephalic. The occipital region is much developed,

and the curve of the vertex at the level of the anterior portion of the sagittal suture is slightly concave instead of convex.

M. Broca remarked that this cranium much resembles one of those obtained from the sepulture of Chamant, which is a long barrow of the stone period, like the sepulture of Tilshead.

On the Etruscans. M. Perier said that, having been appealed to by M. Broca, he wished to offer some observations on the Etruscan type, which he had studied at the Campo Santo, at Pisa, and especially in the celebrated museum of Volterra, an important Etruscan town, in the vicinity of which are found subterranean galleries containing ancient funerary monuments.

The Etruscans incinerated the bodies, and placed the ashes in small sarcophagi made of burned earth. A faithful representation of the deceased, in the form of a statuette, invariably adorned the lid. There were also at Volterra and elsewhere large sarcophagi containing entire bodies.

It is the great number of these statuettes, generally very well executed, and the bassi relievi sculptured upon the mausoleums, which facilitated the study of type. By these means, said M. Perier, he was enabled to recognise two chief types—an aristocratic and a vulgar type. In the first type, which is more corpulent and compact, the profile of the head is much curved, the forehead is wide and tapering vertically, the nose is aquiline, thin at the root, and coalescing with the base of the forehead, mouth small, chin beardless, round, and short. The contour of the face is oval. The *ensemble* of the features is grave, and not deficient in grandeur and majesty. A remarkable feature in this physiognomical type, is the union of nose and forehead without any intermediary depression. In the Egyptian, the nose and the forehead form a straight line inclined backwards and upwards; in the Greek, the nose is also continuous with the forehead in nearly a vertical direction; in the Etruscan, the forehead with the nose describe a convex line.

The second type is less homogeneous, less refined and pure. The forehead is not so wide at the base, but is not less in height; the nose is frequently straight, or nearly so; the fronto-nasal furrow is very perceptible; the mouth is larger, the chin less round, and wider; and finally, the contours of the face are less regular, less uniform, and not so fine as in the preceding type.

These two types still exist, especially the second. They are seen at Volterra, and on the road to Sienna. I have seen some perfectly pure exemplars of the first type in Florence; and in the environs of that city, in the little village of Fiesole, formerly an old city, the inhabitants still present the principal characters of both Etruscan types.

And why should not the ethnic remnants of the Etruscans be in the same conditions as those of other ancient peoples? Even at Rome, mixed as its population is, these types are found, especially in the Campagna and the adjoining territories, as mentioned by William Edwards (*Mém. de la Société Ethnol.*, t. i, p. 43). Thus Pouqueville recognised in the Morea the ancient types; at Mitra he found the fair-haired daughters of Sparta; and the descendants of the Hellenes in the whole of Greece. Thus the Assyrian is found at the ruins of Nineveh, and the Egyptian at the ruins of Thebes. And so is it everywhere. In Hindostan, a country so frequently invaded, the types are not so much mixed as is generally imagined. The Hindu is now what he ever was.

Whenever a great people has for a long period been in possession of the soil, though it may no longer exist as a people, it still exists more or less in its representatives, the traces of which are almost indestructible. This is a general law.

M. Perier having read a letter from M. Renard, on a cranium of an old Roman, the discussion on the origin of Indo-Europeans was resumed.

M. Pruner-Bey, in reply to M. Lagneau, said, our colleague considers the Kimmerians of the ancients as identical with the Cimbrians, who were Germans, according to most historians, whilst I only alluded to Celtic populations, who spoke and still speak *Kimraig*, a widely spread Celtic idiom; for the Gauls also, as shewn by recent researches, belong to that Celtic branch speaking *Kimraig*. Consequently the inhabitants of Wales, where this is still a living language, can scarcely be Cimbrians; that is to say, Germans and Celts at the same time. As regards the traces left by the Gaëls in the geographical nomenclature of the Caucasus, I would only remark that, instead of limiting it to two roots, as M. Lagneau has done, M. Pictet gives a very extended list. Are there proofs existing that ancient races, of whom we find osseous remains, have disappeared from Western Europe? M. Lagneau thinks so, and he founds his opinion on two facts. As to the first, the Neanderthal cranium, I look upon as an exceptional case. This cranium in fact represents, apart from the enormous development of the frontal sinuses, outwardly all the characters of the Celtic type. This character is found in a reduced form in other ancient crania, whether Celtic or brachycephalic. The illusion, moreover, disappears when the internal cast of this cranium is examined. Among sixty casts of the cranial cavity, belonging to various races, which I have examined, that of the Neanderthal corresponds with the cast of the skull of a modern Irishman, which is an excellent specimen of the Celtic type. We know, more-

over, that the Neanderthal skeleton is of high stature, like that of the old Celts, and that there is also an anatomical peculiarity concerning the direction of the neck of the femur. One word more on the ancient prognathic brachycephali observed by M. Spring, who, M. Lagneau thinks, are now extinct. The description given by the learned Belgian is very concise, but there is nothing in it which I have not found in other old brachycephalic crania belonging to various localities. I shall only mention three specimens, in which brachycephaly is combined with well marked prognathism. One cranium was obtained from a battle-field near ancient Alesia in France; the two others, one from the lake of Geneva, and the last from a marl pit of Upper Italy, present an almost animal prognathism. Are there, then, individuals still existing, in whom brachycephaly is associated with prognathism? I have positively seen them in the environs of Geneva. Thus Celts and ancient brachycephali still exist amongst us; and I do not, like our honourable colleague, conclude from some isolated and exaggerated facts.

M. Liétard then read a long paper "On Comparative Philology and Aryan Migrations."

M. Simonot read a report on the progress of the Anthropological Society of Paris, from its foundation on the 19th of May, 1859, when it consisted only of nineteen members, whilst at the end of March, 1864, the number of members amounted to 250. The report includes an account of the objects contained in the museum of the Society, and its relations with foreign scientific institutions.

At the meeting of April 21, 1864, M. Pruner-Bey read a note from Dr. Lorange, Director of the European Hospital at Beirout, (Syria), "On a Case of Multiple Horns on the Scalp." The subject is a woman, aged 55. One of the horns, $15\frac{1}{2}$ centimeters long, resembled the horn of a ram. M. Pruner-Bey observed that these excrescences were purely epidermic, and possessed nothing in common with the natural horns of animals.

Colour of Mulattoes at Birth. M. Berchon sent the following note: The discussion raised at the meeting of Dec. 3, on the colour of new-born Mulattoes, induced me to point out a constant phenomenon, which enables us at the birth of a mongrel to recognise at once the characters of the parents. I have previously pointed out the difficulty, or rather impossibility, to distinguish at birth a black from a white child by the mere inspection of the skin. There is no such difficulty as regards Mulatto children. In such cases, we always find on them black patches,—unquestionable indications of their origin,—generally situated near the generative organs (penis, scrotum, umbilicus, labiæ, nipple). I have recently assisted at the de-

livery of a Mulatto lady married to a Mulatto of colour darker than herself. The new-born baby was at birth much darker than a negro child, nevertheless it presented the marks I have just indicated. On the scrotum was a round black patch of the dimensions of a five-franc piece. One of my friends, an accoucheur of great practice in the colonies, confirms the generality of this fact. These patches are very tenacious, and are perceived for a long time despite all crossings.

Dr. John Thurnam, foreign associate, sent ten photographs, representing crania found in burial places of the stone period, with a manuscript bearing the title "On the two Principal Forms of Ancient British and Gaulish Skulls."

Traumatic Aphonia. Lesion of the Third Frontal Convolution on the Left Side. M. Broca presents on the part of M. Perier the brain of a man who died ten days after a fall on the head. The man fell on the right side of the head, and sustained a fracture of the right temporal fossa. The patient remained unconscious for some time, but when M. Perier saw him first, the only reply he could make was "*La tête, la tête.*" Pulse feeble and slow, vomiting, suborbital ecchymosis on the right side, bleeding from the nose. Some improvement showed itself on the fourth day; he understood everything said to him, but could only pronounce the monosyllable *oui*.

Though the man fell on the right side of the head, M. Perier, from the loss of speech, suspected a lesion of the third frontal convolution in the left hemisphere. At the *post mortem* examination, the right hemisphere, the cerebellum, and the pons, were found perfectly sound. On the external surface of the left hemisphere were found three small but distinct hemorrhagic foci. The first, situated on the middle portion of the second convolution of the temporo-spheroidal bone, corresponds with a superficial contusion of the cerebral substance; the pia mater is torn on this spot, from which the blood spread into the arachnoid. The second focus is situated in the same convolution, about two centimeters behind the former. The third, finally, is situated on the superior margin of the fissure of Sylvius, and a half centimeter in front of the external end of the fissure of Rolando, covering almost entirely the posterior gyrus of the third frontal convolution. M. Broca had no hesitation in considering this lesion as the cause of loss of speech, as it occupies strictly the spot indicated as the seat of articulate language.

M. Bertrand then read a paper *On the Origin of Indo-Europeans*. He requested the members not uselessly to spend the time in questioning the fundamental principles of historical science, but to admit as provisionally established the following three propositions.

1. Science has demonstrated that the origin of the chief elements

of Indo-European civilisation must be sought for in the East, namely, the origin of the Greek, Latin, Celtic, Germanic, Slavonian, and Lithuanian languages. The origin of mythology, *i. e.*, of the primitive religion of these peoples; the origin of architecture, of the alphabet, of metallurgy, and of coining money.

2. At the most remote period which history can reach, the arts enumerated above were already flourishing in the East. The Western countries, namely, Greece, Italy, Spain, Gaul, Great Britain, Sweden, Denmark, and Germany, were then in a complete state of barbarism, scarcely emerging from the savage state; no trace, at all events, is found of a civilisation having another than an Eastern origin.

3. The Eastern civilisation has not been imported into Europe by purely commercial relations, and the establishment of isolated colonies and coast settlements. It was mainly imported by the immigration of tribes sufficiently numerous to leave on their passage from East to West traces of their passage—traces which are recognised by philologists, mythologists, and antiquaries, and of whom there exist some historical records. These tribes belonged mostly to the Arian race.

These three propositions are now accepted by all the learned bodies of Europe. The most eminent men, such as Humboldt, Grimm, Pott, Eugène Burnouf, Lassen, have admitted them as axioms. Let us, then, no longer discuss truths established by the masters of science. To whatever schools you may belong, whether you are partisans of the unity of the human species, or whether you admit two or three races distinct from the Arian, the propositions enunciated may be admitted by all independent of their predilections.

ASTRONOMICAL TRADITIONS.

In the first volume of the *Memoirs of the Anthropological Society of London*, there is an interesting paper by Mr. Bollaert on the "Astronomy of the Red Man of the New World," the result at which the learned author arrives being that "assuredly the astronomical knowledge of the aboriginal Americans was of domestic origin; and any of the few points of seeming contact with the calendars of the Old World, if not accidental, must have taken place at an exceedingly remote period of time."

In the work before us,* we have an inquiry into the most ancient

* "Mazzeroth; or the Constellations." In four parts. To which is added "Mizraim; or the Astronomy of Egypt." Illustrated by lithographs of the Planisphere of Denderé, and the Zodiac of Esné. By the late F. Rolleston. New Brighton: 1865.

astronomy of the Old World, not, however, dealing with the primitive calendars or physical theories of the past, but with what would seem to be more ancient still, namely, the apparently fanciful names given to certain groups of stars called constellations, and the meaning of the corresponding extraordinary figures which we find delineated on the celestial globe. The calendars of all nations—making allowance for differences of latitude, and consequent differences in the recurrence of certain visible phenomena of the sun, moon, and stars—might antecedently be expected more or less to agree. But nothing can or will be imagined more entirely arbitrary than the signs of the zodiac, and other constellations. Excepting, perhaps, the Pleiades, Orion, and the Great Bear, there are no groups of stars in the northern hemisphere that in a marked manner connect themselves together; and were half-a-dozen independent observers required to endeavour to form them into separate groups, the chances are infinite that there would not be the least resemblance in the results. Perhaps, too, the last thing that any of them would think of would be to find any resemblance to men, women, or animals among the stars. Orion may be considered as something like a sandglass; the Great Bear as like a cart or wain, or in the reverse way, like a plough; and hence the popular names in England and Scotland of "Charles's Wain", and "Peter's Plough", but any resemblance to the "great bear" will be sought for in vain. It is also well known that attempts have been made to get rid of the "arbitrary divisions" of the stars into "the constellations", and to connect them, with reference to their actual appearances, by lines, and angles, and triangles; though all such attempts have hitherto failed.

The closely printed volume before us furnishes us with a theory, or *rationale*, of the names given to the signs of the zodiac and other constellations, which, to say the least, is remarkable, and which certainly disposes of the arbitrariness we are apt to assign to the grouping of the stars. It is certainly the most consistent account that has ever been put forward of the origin and real meaning of the constellations as figured upon the celestial globe.

The title of the work is taken from the 32nd verse of the 38th chapter of the Book of Job: "Canst thou bring forth *Mazzaroth* in his season?" In the margin of the English Bible we find that *Mazzaroth* is rendered "the twelve signs"; and the word is a feminine or neuter plural noun, meaning *chambers* or *separate divisions*; such as are the *constellations* "Mazaloth", with which the word is sometimes identified, signifies "the way through which anything goes", as the sun through the zodiac. It occurs only once in the Bible, in 2 Kings, xxiii, 5, where it is rendered "the planets", but as "the twelve signs" in the margin.

The author of *Mazzaroth* professes to establish—and certainly not without a vast accumulation of proof—that the names and figures assigned to the constellations are, as it were, hieroglyphic embodiments of the great truths of revealed religion first made known to Adam and Seth in Paradise and after the Fall; and that these formed the primæval teaching of mankind generally, and thus became the foundation of the various myths and traditions of all peoples throughout the world. The subject is a very large one to examine in detail; but we may apply one significant test which is furnished by the accomplished author. Taking the twelve signs of the zodiac we shall find that they correspond very strikingly with the imagery in Jacob's dying blessing; and the Hebrew tradition is that he spoke of them as the appointed cognisances of his twelve sons, which were borne as the standards of Israel in the wilderness.

Although we admit that, as we have said above, the author has endeavoured to accumulate a vast amount of proof in favour of his theory, we fail to perceive that the arguments employed are of such a nature as to carry conviction to the reader's mind. It is attempted to prove that a certain coincidence exists between the form of the constellations and the events narrated in various Semitic traditions. To do this, a great amount of learning is brought to bear on the subject, and the pages are covered with classical, Hebrew, and Arabic quotations, Hudibrastic verse, and references to many curious subjects bearing upon general science, but which have been hitherto unconnected with astronomical investigations. From these topics, of which we may say *sunt bona, sunt quedam mediocria, sunt mala plura*, we may cull a few elegant extracts. We are told, speaking of the early Christians, "So the beautiful token of their faith, the passion-flower, was worn by them for the same purpose," etc. (p. 107). Considering that the passion-flower was not known until after the discovery of America by Columbus, we are a little surprised at the above statement. However, we shall prefer to give an extract which will give a clearer notion of the author's style than we could adequately describe to our readers:—

"The primitive year began in the sign Virgo, the stars of which were seen most strikingly in the evening sky when the sun was in Aries, the splendid star still by us called Spica, the ear of corn, in the woman's hand, marking the leading idea, the Promised Seed. Thus was represented the subject of the first promise, the foundation of the hopes of fallen man. In the next sign, Libra, we have His work, which was to be to buy, to redeem, figured in the balance weighing the price against the purchase. Then in Scorpio follows the indication of what that price was to be; the conflict, in which the seed of the woman receives the wound in his heel, while his other

foot is on the head of the enemy, here figured by the scorpion, a venomous reptile, who can sting even while his head is bruised."

Certainly the train of ideas which a contemplation of the sign *Libra* is presumed to evoke, is a little complex. How the idea of a balance necessarily implies the idea of price and purchase we fail to perceive, as we confess that scales have always been associated in our mind simply with the idea of weight. But the *petitio principii* by which the constellation *Ophiuchus* (which is nowhere in the book demonstrated to represent the "seed of the woman") is identified as the emblem of the Hebrew idea of the Messiah, is to our mind shamefully manifest. And again, further on in the book, it is the serpent in the hand of *Ophiuchus* who represents the Evil One; but here we are told that he is typified by the sign *Scorpio*. Now, either there must be two devils,—the admission of which fact would be exceedingly inconvenient,—or else the same personage is represented by two distinct emblems, which would be highly improbable. If *Ophiuchus* is, as stated on p. 19, the "human figure grasping the serpent, treading on the scorpion," and both serpent and scorpion are manifestations of the same enemy, it is an unwarrantable exercise of his diabolic supernatural attributes to be at the same time in the man's hands as a serpent and under his feet as a scorpion. This is really one of those things "no fellow can understand."

We can scarcely congratulate our author upon his philology; we see that he derives Scandinavian words directly from Hebrew roots; and we observe Arabic, Hebrew, Chaldee, and Syriac reciprocally interchanged with a confidence quite alarming. As, however, the writer has exhibited a dexterous ingenuity in contriving to misspel nearly every word quoted from foreign languages, less evil may result from these pleasing recreations than might at first be supposed. But it is really too bad when we are told that Hela, the Scandinavian goddess, from whom the word *hell* is derived, "has had her name from the primitive root *Hel*, to which Æschylus appears to allude in the Agamemnon when he speaks of Helen"!!! "Helen is here referred to the primitive root, to destroy; but it is more likely that she had been named from to shine, whence *Ἥλιος*, the sun." If such a derivation can be imagined from such a root, we must admit that such words as eel, elder, elbow, heeltap, highlow, island, highlander, Elohim, ell, and hundreds of others of equally ridiculous affinity, have all been derived from the common Hebrew root.

We have a right to complain of the suppression which the author makes of all reference to early American astronomy. If there is any reference in the astronomy of the Shemites or the Aryans to the traditions or the hopes alluded to in the bible, early Mexican traditions

should also bear some reference to the sacred narratives. Let us, then, take one of the Mexican "phases of the moon", and see whether it bears any similarity to the astronomy of Europe, Western Asia, or even of China:—

"In a group from the *Fejevary Codex* is represented the state in which they portrayed the phases of the moon, according to the Aztec mythology. We first see the sun and the moon quarreling; the next group shows the defects of the moon, which, in the third group, is swallowed by the sun; the fourth figure represents the triumphant sun; in the fifth, the conqueror spits the head of the moon out as symbol of the first quarter" (Bollaert, *Mem. Anthropol. Soc. Lond.*, vol. i, p. 217).

We cannot say that this grotesque combination of emblems represents any especial tradition; yet we recollect that these and other far more absurd legends form part of the intellectual heritage of thousands of living savages.

The appeal which is continually made to the admitted coincidence between the traditions of Christianity and Buddhism is repeated *usque ad nauseam*. The possibility, on the one hand, of the later system having owed many of its peculiar tenets to the more early form of faith, our author apparently does not contemplate. Still less does he give in these comparisons due weight to the fact that the early Christian missionaries, in Buddhist countries, have left in Thibet traces of their presence, which have led to the perpetuation of customs and ceremonies foreign to the innate precepts of the Buddhist religion. And we are not surprised to observe in the passages which treat on this subject an intolerance towards those who differ from the writer, which is only justified by the fact that his knowledge of mediæval history is nearly equal in excellence to his acquaintance with philology or botany.

Considering that the whole work bears the mark of crude conception, ill-considered plan, and imperfect arrangement, and observing that no reference is made to those authorities who have most illustrated the subject, we regret that any theories on a matter of such supreme anthropological importance as the investigation of early traditions, should have been attempted without a due contemplation of the difficulties to be encountered, and the object to be attained by the study of the names and figures of the ancient constellations.

OBSERVATIONS ON THE SKELETON OF A HOTTENTOT.

By JEFFRIES WYMAN, M.D.*

THE subject was nearly adult, and came to his death by suicide. The chest was well formed and prominent: the shoulders were well made but not broad; the loins were very hollow; the hips narrow; the thighs full and feminine, and the calves of the legs slender. There was no beard, no hair in the axillæ nor on the pubes. The ears were rather oval, small, and had only a small lobule. The web between the fingers was more extensive than usual, and gradually increased in breadth from the index to the little finger, where it reached as far as the joint between the first and second phalanx. The epiphyses of the long bones were still unattached, but the wisdom-teeth were mature.

	Inches.
Height of body	65½
Spread of arms from tip to tip of middle fingers	66
From top of head to top of trochanter	29½
From top of trochanter to sole of foot	36
Breadth of shoulders	13
Breadth of waist	9½
Breadth of hips through trochanter	11½
Length of arm from acromion	30½
Length of thigh	18
Length of leg from top of tibia to sole	18
Length of hand	7½
Length of foot	9

The brain weighed 3 lbs. 2 oz. Av., which is about the average weight of an European brain. There are no weights of brains of Hottentots given in the tables of the comparative weights of the human brain. Dr. Morton gives the measurements of three Hottentot crania, the average capacity of which is 75 cubic inches. A cubic inch of brain is estimated to weigh 259.57 grains, and this multiplied by 75 would give as the whole weight about 2 lbs. 12 oz. Av.

The individual was unusually tall for a Hottentot, and measured five feet and five inches in height. A comparison of Hottentot and Bushman skeletons, and casts of bodies, contained in the museums of London and Paris, give an average height of four feet and six inches. While the height of the body just equalled the distance between the tips of the fingers, the arms being outspread, the legs were disproportionately long, so that the pubes was more than five inches above the centre of the whole height.

In the external configuration of the cranium proper there was nothing remarkable, except that the top was somewhat flattened, the

* From the Proceedings of the Boston Society of Natural History, April 2, 1862, and December 16, 1863.

forehead narrow, sloping outwards and backwards from a somewhat prominent ridge, corresponding with the obliterated frontal suture.

When held at arm's-length, and viewed from above, the zygomatic arches are just in sight; but the fossæ are nearly concealed. The measurements show that the cranium is not brachycephalic, as in the Mongolians, but decidedly elongated, as in the negroes.

The most striking features to be seen in the head are those found in the bones of the face, especially in the nasals, maxillaries, and malars.

The nasals are completely co-ossified with each other, no trace of a suture remaining. This was the more noticeable, as the individual was young, and the bones of the skeleton generally are immature; and has an interest in connection with the fact that the nasal bones are co-ossified at an early period in the monkeys, and before the completion of the first dentition in the gorillas and chimpanzees. These bones in the Hottentot are remarkable for their great breadth, especially at the upper part, which is the broadest portion of them. They do not recede from the outline of the frontal bone, which is continued, without interruption, to the middle of the nose, where the bones project very slightly forwards. In a transverse direction they are nearly flat, with only a scarcely discernible ridge at their line of union: they are consequently nearly in the same plane with the anterior edge of the upper ends of the maxillaries. The naso-frontal suture is horizontal for the distance of half an inch, is bent down at either end to become continuous with the fronto-maxillary suture, and is remarkable for its great length. The breadth of the root of the nose is dependent on the nasals, and not upon the breadth of the ascending part of the superior maxillary bones, as stated by Dr. Knox.*

Malar bones. These, with the outer portion of the maxillaries, are remarkably bulging and rounded. The portions of the edges of the orbits formed by them, instead of being somewhat sharp, as in other crania, are quite noticeable for their roundness. The zygomatic arches do not differ from those of ordinary crania in their proportion outward.

Maxillary bones. The edges of the ascending portions of the *upper jaw*, where they form the border of the nares, project very little beyond the level of the face, and are bent inwards, instead of being directed forwards. It is in consequence of this, and the flatness of the nasal bones, that the middle portion of the face is so slightly prominent. The alveolar borders are remarkably prominent, forming a somewhat pointed arch; the space occupied by the incisor teeth being narrow, and the lateral incisors facing more outwards than forwards. No trace of an intermaxillary suture could be detected.

* Quoted by Prichard, "Researches into the Phys. History of Man", vol. i, p. 313. London: 1851.

The outline of the alveolar portion of the *lower jaw* corresponds with that of the upper; the symphysis is remarkably high, and the chin strikingly pointed and prominent. The height of the bone diminishes rapidly backwards, and the angles are not prominent. This description agrees with that of Cuvier, as regards the prominence of the jaw; and differs from that of Blumenbach, who asserts that the jaw does not project at all.

The orbits are quadrangular; the transverse diameter considerably the longest.

Interior of the cranium. The most striking feature here is the narrowness and the diminutive size of the fossæ for the lodgment of the anterior cerebral lobes. The orbitular plates of the frontal bones rise higher above the cribriform plate of the ethmoid bone, and make the olfactory fossa deeper than in ordinary crania: they ascend rapidly on each side, thus projecting into the cavity of the head at the expense of the space usually occupied by the anterior lobes of the brain.

The foramen magnum was rather under than over the average size; and, in this respect, differs from Cuvier's description of the same part in the Hottentot Venus, in which he says that it is proportionally larger than in other heads, and, "according to the views of Sömmerring, would indicate an inferior nature."

The capacity of the cranium was measured by Dr. J. C. White, the Curator of Comparative Anatomy, and found to be eighty-two cubic inches.

Measurements of the Cranium.

Circumference of cranium	20.75
From one auditory meatus to the other, over vertex.....	12.50
Longest diameter of cranium outside	7.45
Greatest transverse diameter outside	5.00
From anterior edge of foramen magnum to alveoli	3.85
From anterior edge of foramen magnum to occiput	3.65
Length of cranium and face from alveoli to occiput	7.50
Breadth across malar bones	4.35
Breadth across zygomatic arches	5.30
Transverse diameter of orbit.....	1.68
Vertical diameter of orbit	1.32
Interorbital space	1.00
Length of nasal bones97
Transverse diameter, above63
Transverse diameter, middle41
Transverse diameter, lower portion53
Height of the symphysis of the lower jaw, exclusive of teeth	1.64
Breadth of lower jaw, through angles	3.55
Longitudinal diameter of cranium, inside	6.90
Transverse diameter of cranium, inside	5.18
Height of cranium, inside	4.62
Greatest breadth of anterior cerebral fossa	4.00
Greatest breadth of cerebellar fossa.....	4.37
Length of foramen magnum	1.48
Breadth of foramen magnum	1.16

Pelvis.—This is very remarkable for its diminutive size, and, when seen in front, for its square form. From the table of measurements, it will be seen that the breadth of it is but little in excess over the height. While, in ordinary skeletons of Europeans, the former dimension exceeds the latter by between two and three inches, in this Hottentot it is only by 0.33 of an inch. The height of the crests of the ilia above the base of the sacrum is also greater than in the common pelvis: for although the pelvis of the Hottentot is so small, yet the cristæ are 1.45 of an inch above the sacrum; while, in two average pelvises of white men, they were only from 1.20 to 1.25 of an inch.

The *sacrum* is very straight, and projects more backwards than usual; and the base of it is very narrow. In Caucasians, the sacrum without the coccyx forms nearly an equilateral triangle, the vertical diameter being slightly the largest. In the Hottentot, the vertical diameter is four inches; while the transverse is only 3.27 of an inch.

The anterior spinous processes of the *ilia* project almost directly forward, even in a much more marked degree than is common in the Caucasian pelvis; the iliac bones seem compressed from side to side: all of which gives to these parts a nearly vertical wall. The diameters of the brim do not differ materially in their relative size from the same in European skeletons; it being understood that these are liable to considerable variations. In the texture of the bones, the pelvis presents neither that massiveness nor the roughness which has been said to characterise this part in the Hottentots.

The resemblances of this Hottentot pelvis to that of the apes are trifling in comparison with the differences; these last being so great, that no one would hesitate in the slightest degree as to whether the pelvis in question belonged to the human family or not. The resemblances which really exist, with the exception of those belonging to the sacrum, are only shown by a close comparison of measurements.

The pelvis of the most anthropoid animals—viz., of the chimpanzee and gorilla—is characterised in a most marked degree, as differing from that of man by its relatively as well as absolutely greater length; by having the crests of the ilia in planes more nearly transverse; by having the brim of the pelvis in the form of an elongated oval, with the diameter from before backwards much the longest; by having the plane of the brim of the pelvis so inclined towards the vertebral column as to make with this last a much more open angle; in having the ischia longer, as shown by the space which separates the cotyloid cavity from the tuberosity,—the tuberosities longer, their extreme points more widely separated; in the extension of the rough surface of the tuberosity for the attachment of the muscles, as far as the symphysis; and in the greater extent of the union of the bones of the pubes with each other at the symphysis.

The sacrum of the anthropoids is also quite marked, in having its length greater in proportion to the breadth of its base.

The most striking approximation of the Hottentot pelvis to that of the anthropoids is to be found in the sacrum; for while in the Caucasian the longitudinal diameter of the bone exceeds the transverse by only 0.10 of an inch, as in E², and is even less by 0.10, as in E¹, of the following table, in the Hottentot it is longest by 0.73, in the gorilla by 0.84, and in the chimpanzee by 0.85 of an inch. If we take into consideration the straightness of it, it will be seen, that, in the respects mentioned, it comes nearer to that of the anthropoids than of the Caucasians; but in its size, in proportion to the whole pelvis, it differs very much from the apes, and much more closely resembles the same part in man.

Measurements of the Pelvis in two Europeans, a Hottentot, a Chimpanzee, and a Gorilla.

	E. ¹	E. ²	H.	C.	G.
Height of pelvis	8.50	7.50	7.17	11.00	15.10
Breadth across ilia	11.50	10.00	7.50	9.86	17.70
Breadth across middle of posterior edge of the acetabulum	7.40	6.90	6.50	5.62	8.70
Breadth of ilia through superior spinous processes	6.13	6.00	5.16	4.58	9.53
From spine of pubes to tuberosities of ischia	4.80	4.50	4.00	4.68	6.65
Antero-posterior diameter of brim	3.80	4.20	3.35	6.10	8.00
Transverse diameter of brim	5.00	4.45	3.85	4.00	6.10
Length of sacrum without coccyx...	4.30	4.20	4.00	3.75	5.54
Breadth of sacrum	4.40	4.10	3.27	2.90	3.70
Height of crest of ilia above the base of the sacrum	1.25	1.20	1.54	2.20	3.20

Limbs.—The bones of the upper limbs present, in a somewhat marked degree, a difference in the length of corresponding bones on the right and left sides, as will be seen by the accompanying table of measurements. The difference between the lengths of the ulna and humerus, though somewhat less than in the average, is, nevertheless, not uncommon in European skeletons. The humerus is perforated at its lower end, on one side by a very small opening, and on the other has only a thin plate between the olecranon and coronoid fossæ. Of seven skeletons of pure negroes which we have examined, the humerus was perforated on *both* sides in three, on *one* side in one, and on *neither* side in three.

The thigh-bones offered nothing unusual, either as to the shaft or neck. The tibia are remarkable for their length in proportion to that of the femora. When the two bones are placed side by side, the lower ends of both on the same level, the tibia reaches as high as the middle of the neck of the femur; while in the skeleton of the neck of a European it only reaches as far as the lesser trochanter. The upper

end of the tibia is quite small, and its protuberance scarcely rises above the surface: the shaft forms an equilateral triangle; and, instead of having the anterior edge quite sharp and prominent as in Europeans, it is rounded.

The os calcis is more slender than in ordinary skeletons, and is particularly remarkable for having the tuberosity and neck only slightly exceeding the rest of the bone in their vertical diameter.

Measurements of Bones of Limbs.

	E.	H.	G.	Ch.
Length of right humerus	13.10	12.45	19.00	11.70
Length of left humerus	12.90	12.00	"	"
Length of right ulna	10.40	10.30	15.20	10.60
Length of left ulna	10.30	10.00	"	"
Length of right clavicle	5.40	5.00	"	"
Length of left clavicle	5.57	5.35	"	"
Length of femur	18.00	17.20	15.70	11.65
Length of tibia	15.00	15.00	13.00	9.55
Length of astragalus	3.17	3.03	4.05	
Height of tuberosity of os calcis	2.03	1.62	1.85	
Height of neck	1.75	1.38	1.15	
Height at posterior edge of upper articular ridge.....	2.18	1.56	1.50	

Mr. C. J. Sprague inquired whether this individual might not be considered as a somewhat gigantic representative of his race, and whether variations in height were as common among savage as among civilised races.

Dr. Wyman replied that the range of variation in height, as far as known, was much the greatest in the latter. O'Brien, the Irish giant, whose skeleton is preserved in the Hunterian Museum in London, was eight feet and four inches in height; while Borvasky, the Polish dwarf, was less than three feet. No such difference as this is known among the savage races. Wild and domesticated animals of the same species offer similar differences.

Prof. Daniel Wilson remarked that the cranium of this Hottentot appeared to be very fairly developed; and, in speaking of the great disparity between the lower races of men and the anthropoid apes, noticed that the distinctions in the cranium of the higher and lower races of men partook much more of facial than of cerebral character.

BRAIN AND MIND.*

PROFESSOR WAITZ, in his *Introduction to Anthropology*, sadly complains that philosophy was going out of fashion in fatherland. There can, indeed, be no doubt that *à priori* philosophy is now under a cloud in Germany—the very country where it has received its most elaborate form. The modern German school sneers at speculative philosophy and looks upon a metaphysician as a sort of dealer in old curiosities.

We should be sorry to see the study of metaphysics altogether neglected; for we think that both the *à priori* and *à posteriori* methods applied to the elucidation of mental phenomena may well exist side by side and derive benefit from each other. Indeed, we very much doubt whether any person is fully competent to deal with “the mechanism of thought”, unless his studies have extended to both pure and experimental psychology. What has hitherto retarded the progress of mental, may be fairly ascribed to the fact that the philosophers knew little of physiology, while the physiologists disdained the study of philosophy.

The object our author had in view in writing the treatise bearing the above title was, as we gather from his preface, “to draw down psychology from the airy regions of philosophy and to place it upon the solid foundation of exact science; for a system of psychology not based upon physiology rests only upon the tottering foundation of personal opinions, fantastic dreams, and dogmatic prejudices.”

There are but few persons who at the present day deny that the brain is the material organ of the mind, and that mental phenomena are closely connected with the functions of the nervous system; whence it follows, that no exposition of psychology can be complete in which cerebral physiology does not enter as a prominent feature. “If,” says our author, “the functions of the brain and its parts were perfectly known to us, we should possess a knowledge of the fundamental faculties of the mind; but, unfortunately, the physiology of the brain† has hitherto yielded such scanty results, that but few of its materials can serve for a foundation of physiological psychology” (p. ix).

This poverty of materials does not, however, deter our author from making another attempt to place psychology upon “its natural soil”, viz., physiology.

* *Gehirn und Geist, Entwurf einer physiologischen Psychology für denkende Leser aller Stände*, von Dr. Fh. Piderit.

† A succinct sketch of the present state of cerebral physiology appeared in the third number of the *Anthropological Review*.

"Two methods," says Dr. Piderit, "have been tried to trace the fundamental powers which manifest themselves in the ever varying mental phenomena.

"The philosophers tried speculation, the physiologists performed experiments on the organ of the mind. As neither of them succeeded in their efforts, I have tried another way—that of analogy. By comparing the brain with the spinal cord, I infer from similarity of structure, identity of function, and I assume that similar forces act in the brain as in the spinal cord. So long as physiological facts are wanting, we must rest satisfied with physiological probabilities, and if these are sufficiently explanatory they must be accepted until refuted by facts" (p. 41).

After giving a description of the development of the nervous centres from the so-called primitive groove, and shewing how the anterior portion of the groove dilates into three vesicals indicating the positions of the cerebellum, the mesencephalon, and the cerebrum, and proving that brain and spinal cord originate from the same elements, the author looks upon the brain only as a higher development of the primitive mass, and assumes that the fundamental forces of both are identical.

As the activity of the white substance of the spinal cord is partly perceptive and centripetal, and partly motor and centrifugal; so is it with the white substance of the brain. The sum of the afferent brain nerves he calls the organ of perception (Vorstellung's organ—representative orceptive organ); the sum of the motor brain-nerves he terms the organ of the will. In the brain he observes the perceptive and motor nerves do not seem to be separated as in the spinal cord, but intimately interwoven. And just as the grey matter of the spinal cord establishes a reflex action between the perceptive and motor nerves, so the grey matter of the brain establishes a reflex action between the perceptive and motor nerves; but the influence of the organ of perception upon that of the will does not merely give rise to voluntary motions, but may be reflected back upon the organ of perception thereby causing it better to retain the perceptions and to produce thought. In short, mental activity is the result of the reciprocal action between the organ of perception and the will. "The perceptive capacity is the female element, the power of the will is the impregnating male element of the mind, and the ideas are the children of this mental act of generation" (p. 81).

It certainly seems a little strange, that an author who sets out by repudiating speculation and with the avowed aim of giving to psychology a more solid foundation, finishes by propounding a scheme of psychology resting not upon physiological facts, but simply upon "*analogy*". Moreover, the fundamental principle by which Dr. Piderit attempts to explain "the mechanism of thought" is not so

new as our author imagines. That reflex action is going on within the brain, as it is within the spinal cord, has long been assumed both by continental and English physiologists and applied by them to the elucidation of mental phenomena.

In 1844, Dr. Laycock read before the British Association a paper "On the Reflex Function of the Brain", from which we extract one of the opening passages.—

"Four years have elapsed since I published my opinion, supported by such arguments as I could then state, that the brain, although the organ of consciousness, was subject to the laws of reflex action, and that in this respect it did not differ from the other ganglia of the nervous system. I was led to this opinion by the general principle, *that the ganglia within the cranium being a continuation of the spinal cord, must necessarily be regulated as to shew reaction on external agencies by laws identical with those governing the functions of the spinal ganglia.*"

Many other authors might be cited to shew that the doctrine of the reflex action of the brain, as regards the evolution of perception and thought, has been long advocated. But whilst we cannot say that Dr. Piderit has added anything to our knowledge of cerebral physiology, we readily admit that his work contains a good deal of matter which will be novel and interesting to such readers as have not previously thought on the subject he discusses.

PRE-HISTORIC TIMES.*

MR. (now Sir John) LUBBOCK'S *Pre-Historic Times* is a collection of facts and inferences bearing on primitive archæology, and the probable antiquity and early condition of mankind on the earth. Papers on the "Danish Shell-Mounds," the "Swiss Lake-Dwellings," etc., which have appeared in the *Natural History Review*, and *Lectures on Archæology*, delivered at the Royal Institution, are incorporated in it with a quantity of new matter; and the whole forms a body of clear information, and discreet and moderate argument, on a number of obscure but highly interesting problems of our most ancient history.

Before giving some account of the contents of the work, we must, however, take notice of a passage which, of all things in it, we like the least. This is a note which, placed as it is conspicuously at the end of the preface, is sure to catch the reader's eye. "NOTE. In

* *Prehistoric Times*, as illustrated by *Ancient Remains*, and the *Manners and Customs of Modern Savages*. By John Lubbock, F.R.S., etc., etc. Williams and Norgate: 1855.

his celebrated work on the *Antiquity of Man*, Sir Charles Lyell has made much use of my earlier articles in the *Natural History Review*; frequently, indeed, extracting whole sentences *verbatim*, or nearly so. But as he has in these cases omitted to mention the source from which his quotations were derived, my readers might naturally think that I had taken very unjustifiable liberties with the work of the eminent geologist. A reference to the respective dates will, however, protect me from any such inference. The statement made by Sir Charles Lyell, in a note to page 11 of his work, that my article on the 'Danish Shell-Mounds' was published *after his sheets were written*, is an inadvertence, regretted, I have reason to believe, as much by its author as it is by me." This note, of course, has the effect of bringing prominently forward a charge against Sir Charles Lyell of having "taken very unjustifiable liberties with the work" of Sir John Lubbock. Now of course a man's writings are his own, and their author feels naturally indignant at any part of them being quoted without full acknowledgment. But there is a distinction to be drawn between purely and professedly original articles, and papers like those in question, which are rather of the nature of reviews. This distinction Sir John Lubbock seems to us to overlook, and we think he damages his own scientific position by being ready to defend his ownership of these articles with such sharp literary weapons.

It is quite natural that a scientific man should fight for his property in the new theories he has started,—the new discoveries he has made,—the new or newly-arranged facts which he has brought forward,—and with this feeling it is quite possible to sympathise, even when we think both facts and theories unsound. For instance, there was published a few years ago a clever book called the *Genesis of the Earth and Man*, taking up a half-theological half-ethnographical line of argument, which we venture to describe as a mare's nest. It seems to have been in part an ancient nest, dating from the seventeenth century; but the nineteenth century builder perhaps rediscovered it, at any rate brought new sticks and did new work to it, and so far made good his title that when the author of another book was found, last year, sitting in it without proper acknowledgment, most people who read the correspondence which ensued in the *Athenæum* were glad to see that Mr. R. S. Poole, of the *Genesis of the Earth and Man*, had ignominiously turned out Dr. McCausland of *Adam and the Adamite*, and established his right to sit in his own nest on his own eggs, even though the nest was a mare's, and the eggs mostly addle.

With Sir John Lubbock, however, the case is just the converse of this. He is by no means an incubator over mare's nests. Few

students of the science of man have had such opportunities of amassing and sifting facts, and of using, comparing, and criticising the best opinions of the best workers in primitive archæology; and his earlier papers, as well as the present work which embodies them, together with a mass of more original matter, are distinguished both by the extensive range of facts collected, and the excellent judgment with which these facts are discussed. But their author naturally could not be making independent discoveries all over Europe, and has had of course to depend on the researches, and more or less to reproduce the opinions, of the men who have given years of their lives to special investigations; such as (among scores of others) Morlot, Troyon, and Keller, for the Lake Habitations; Steenstrup and Worsaae for Scandinavian Antiquities; Boucher de Perthes, Prestwich, Falconer, and Evans, for the Drift-beds; Lartet and Christy for the Perigord Caverns. If Sir Charles Lyell or others have taken from Sir John Lubbock, without acknowledgment, any of the original discoveries and arguments on which his permanent reputation must after all depend, we hope full justice will be done him; but the value of these particular papers in the *Natural History Review* seems to us to lie less in original work than in discriminating reproduction and criticism, which hardly gives the sort of copyright required to justify so severe an attack on Sir Charles Lyell.

In his first chapter, Sir John Lubbock divides the domain of prehistoric archæology, not with the northern antiquaries, into three ages, of stone, bronze, and iron, but into four:—I. The Palæolithic, or Unground Stone Age of the Drift, “when man shared the possessions of Europe with the mammoth, the cave-bear, the woolly-haired rhinoceros, and other extinct animals. II. The Neolithic, or Polished-Stone Age. III. The Bronze Age. IV. The Iron Age. The division of the stone age into two periods characterised by the want and presence of ground-stone implements, so as not to bring the men of the drift into too close companionship with the makers of the high-class polished implements of ancient Europe and modern America and Polynesia, was, we fancy, first propounded by Sir J. Lubbock. Like the famous division into the ages of stone, bronze, and iron, this subdivision is a help in systematising, or at least classifying our knowledge. That the northern antiquaries and others have sometimes pushed it too far, and built too much theory upon it, does not destroy its use and value. Those who accept the fourfold division now before us merely as a classification of facts, with a clear notion that what has happened in one part of the world has not necessarily happened in every other; that, for instance, the bronze age is not known in Africa; that the stone age has been followed

directly by the iron age in New Zealand, as in many other places; that the use of stone implements may be contemporaneous with a copious use of bronze, as in ancient Peru and Mexico; and that the bronze and iron ages must not be turned into distinct chronological periods, seeing that they differ by many thousands of years in different parts of the world,—anyone who takes the theory of Ages, with these and other necessary restrictions, will find it a valuable help. When Sir John Lubbock comes to fight the question of a bronze age in Europe with Mr. Wright, the well-known antiquary, who resists the division in question, and seems to think we have little evidence of an age in Europe when stone was used, while bronze was unknown, or of an age when only stone and bronze were used, while iron was unknown, the classification seems strong and substantial enough to stand against Mr. Wright's attacks.

Turning to the often-debated question of the visits of the Phœnicians to England in quest of tin, Sir John Lubbock examines the arguments of the late Sir G. C. Lewis, and seems to us, who speak with little special knowledge of the matter, to show that there is more probability in the old fashioned notions of Phœnicians in England than the able, but somewhat too negatively-minded, predecessor of Mr. Gladstone was willing to admit. Sir G. C. Lewis did so great a good to English archæologists by forcing them to defend such positions as were tenable, while they abandoned weaker lines, that he must be numbered among our most useful writers, even where he was wrong; and this may be the case here, as it undoubtedly was in his attempt to cut down Egyptology, root and branch, with one slashing blow. Yet the friends of a cause often do more to damage it than its enemies; and it must be admitted that Sir John Lubbock, in mentioning the arguments which have been advanced by Prof. Nilsson as to Phœnicians in the north of Europe, makes us almost think that we had rather disbelieve in these ancient visitors, even against some sort of evidence, with Sir George Lewis, than believe in them with the learned Scandinavian antiquary, who derives the name of the Baltic from the god Baal, and considers "that the use of war-chariots, the practice of reaping close to the ear, and a certain method of fishing, are all evidences of Phœnician intercourse."

Sir John Lubbock gives us a valuable digest of information as to megalithic structures, such as Stonehenge, Abury, and Carnac in Brittany, and the tumuli, cromlechs, and kistvaens, which are so interesting to the archæologist, associated as they are with the burial of the dead, and the interment of objects which have to us served a historical purpose so widely different from what the mourners contemplated.

The curious suggestion at p. 88, which accounts for the character

of the chambered tumuli of Scandinavia, we mention without offering any opinion on it. These tumuli are "large mounds, containing a passage formed by great blocks of stone, almost always opening towards the south or east,—never to the north,—and leading into a great central chamber, round which the dead sit. At Goldhavn, for instance, in the year 1830, a grave (if so it can be called) of this kind was opened, and numerous skeletons were found, sitting on a low seat round the walls, each with his weapons and ornaments by his side. Now, the dwellings used by Arctic nations—the 'winter-houses' of the Esquimaux and Greenlanders the 'Yurts' of the Siberians—correspond closely with these 'Ganggraben' or 'Passage graves'. The Siberian Yurt, for instance, as described by Erman, consists of a central chamber, sunk a little in the ground, and, in the absence of great stones, formed of timber, while earth is heaped up on the roof and against the sides, reducing it to the form of a mound. The opening is on the south, and a small hole for a window is sometimes left on the east side. Instead of glass, a plate of ice is used; it is at first a foot thick, and four or five generally last through the winter. The fireplace is opposite the entrance; and round the sides of the room, against the walls, the floor is raised for a width of about six feet, and on this elevated part the inmates slept at night, and sat at work by day. Captain Cook gives a very similar description of the winter habitations used by the Tschutki in the extreme north-east of Asia. . . . These dwellings appear, then, to agree very closely with the 'Ganggraben'; indeed, it is possible that in some cases ruined dwellings of this kind have been mistaken for sepulchral tumuli; for some mounds have been examined which contained broken implements, pottery, ashes, etc., but no human bones; in short, numerous indications of life, but no trace of death. We know, also, that several savage tribes have a superstitious reluctance to use anything which has belonged to a dead person; in some cases this applies to his house, which is either deserted or used as a grave. . . . Under these circumstances, there seems much probability in the view advocated by Professor Nilsson, the venerable archæologist of Sweden, that these 'Ganggraben' are a copy, a development, or an adaptation, of the dwelling-house; that the ancient inhabitants of Scandinavia, unable to imagine a future altogether different from the present, or a world quite unlike our own, showed their respect and affection for the dead by burying with them those things which in life they had valued most; with ladies their ornaments, with warriors their weapons. They buried the house with its owner, and the grave was literally the dwelling of the dead. When a great man died, he was placed on his favourite seat, food and drink were arranged

before him, his weapons were placed by his side, his house was closed, and the door covered up; sometimes, however, to be opened again when his wife or children joined him in the land of spirits."

In the fifth chapter of his work, Sir John Lubbock gives us a *resumé* of the investigations of the Swiss antiquaries in the lake-dwellings of their country, together with details from North Italy, England, and Scotland, etc., throwing light on the nature of these dwellings, which, far from being at all abnormal in their character, are similar to the houses on piles inhabited by "water-dwellers" at the present day; as for instance, in New Guinea. From the earliest time of the discovery of remains of pile-houses in the Swiss lakes, the passage in which Herodotus describes the fishermen of Lake Prasias as inhabiting such dwellings has been prominent in the discussion of similar sites in Europe. Sir John Lubbock adds an interesting remark: "I have been informed by a friend who lives at Salonica, that the fishermen of Lake Prasias still inhabit wooden cottages built over the water, as in the time of Herodotus."

Chapter VI treats of the Danish shell-mounds, with their remains of bones, rude pottery, stone implements, etc. The rude tribes who have left these memorials of their presence in Northern Europe are considered by Sir John Lubbock to have been men of small stature and round heads, living in a condition comparable with that of the modern natives of Tierra del Fuego, whose life, a wretched one, as it seems to us, has been so graphically described by Fitzroy and Darwin. He holds the Danish mounds to be very ancient, and thus classes their makers as to their period in the history of civilisation. "On the whole, the evidence appears to show that the Danish shell-mounds represent a definite period in the history of that country, and are probably referable to the early part of the neolithic stone age, when the art of polishing flint implements was known, but before it had reached its greatest development."

Chapter VII gives an account of North American archæology, including details as to the "mound-builders" of the Mississippi Valley, and a description of the curious mounds of Wisconsin, which form "gigantic basso-relievos", representing men, buffaloes, elks, bears, otters, wolves, racoons, birds, serpents, lizards, turtles, frogs, etc. The original sources of our knowledge of these interesting archæological fields are principally the publications of the Smithsonian Institution of Washington.

Chapter VIII gives an account of the researches in limestone caverns, such as Kent's Hole at Torquay, the Dordogne caves of Central France, the Sicilian caverns, etc., which have brought into view a race (or races) of "cave-men" living at a remote period in

Europe in company with the cave-bear, cave-tiger, mammoth, woolly-haired rhinoceros, reindeer, aurochs, etc. The evidence is thus summed up:—

“On the whole, therefore, though we cannot as yet determine what variety or varieties of men then existed, we find in the bone-caves sufficient evidence that man was coeval in Europe with the great group of quaternary mammalia. We see, indeed, that the presence, in bone-caves, of ancient implements and human remains, associated with those of extinct mammalia, is no rare or exceptional phenomenon. Nor if we look at the question from a scientific point of view, is there anything in this that ought to excite our astonishment. Since the period at which these caves were filled up, the changes which have taken place have resulted rather in the extinction than in the creation of species. The stag, horse, bear, dog; in short, all our existing forms of mammalia, were already in existence, and there would have been in reality more just cause for surprise if man alone had been unrepresented.”

Sir J. Lubbock then proceeds to discuss in two chapters the question of the antiquity of the earliest appearance of man on the earth, going carefully over the usual topics, the flint implements in the drift, the immense period necessary for the excavation of the Somme Valley, the probable length of time required, on the hypothesis of an original unity of human race and language, for the division of the species and of the language into such varied forms, M. Morlot's calculations as to the time required for building up the cone of the Tinière, Mr. Leonard Horner's computation of the time necessary for the rise in the Egyptian soil in human times, etc. His conclusion is, as might be expected, that the antiquity of man on the earth is very great indeed, though he wisely abstains from committing himself to definite figures. His last sentences relating to this subject are very suggestive:—

“It is true, that few of our existing species or even genera have as yet been found in miocene strata; but if man constitutes a separate family of mammalia, as he does in the opinion of the highest authorities, then, according to all palæontological analogies, he must have had representatives in miocene times. We need not, however, expect to find the proof in Europe; our nearest relatives in the animal kingdom are confined to hot, almost to tropical, climates, and it is in such countries that we must look for the earliest traces of the human race.”

As a means of helping us to realise the early history of our race in general, Sir John Lubbock devotes three chapters to collecting from various sources an account of the state of civilisation of modern savage tribes, such as the Hottentots, Veddahs, Polynesians, Esquimaux, North American Indians, etc., and of the general condition of arts and knowledge among such races. Such accounts are of great ser-

vice for the explanation of ancient remains, and the re-construction of a picture of human life at remotely ancient periods. We notice an account of Hottentot iron-working, which is unsatisfactory. The way in which, in South Africa, iron is reduced from the ore in a furnace by means of skin bellows, and then forged into weapons, etc., has been often described; but Sir John Lubbock is unfortunate in quoting an account from Kolbe, which not only ignores the bellows, but talks of the iron being melted. The good Dutch missionary must have been talking of what he did not understand; for no savage can melt iron; and if he could, it would be merely spoilt for his purpose of forging. Again, it is a common legend, myth, or hypothesis, that the art of fire-making was discovered by the rubbing together, naturally or artificially, of two pieces of wood. If we must have a theory at all as to the origin of the art of producing fire, we think we had rather keep to this old one, which, though imaginary, is at any rate plausible enough, than adopt instead of it the following suggestion:—"In making flint implements sparks would be produced; in polishing them it would not fail to be observed that they became hot; and in this way it is easy to see how the two methods of obtaining fire may have originated." Now, it is true enough that flints struck together throw out sparks; but they are useless sparks for such purposes as this theory requires, as may be seen by trying to set any ordinary material or tinder on fire by knocking a couple of flints together.

Lastly, our author attempts to look not only back, but forward, into the history of man. He regards our race as having developed itself by slow degrees from a very rude and savage state into its present condition, in which different tribes or peoples stand at very different stages of progression from their original state. He favours the opinion of the unity of the human race, and, fortified with the immense length of time which the recent discoveries entitle him to claim, feels able to consider the Caucasian, the Negro, the Red Indian, as derived by the operation of natural selection from one primitive type. In treating of this subject, he makes especial reference to Mr. A. R. Wallace's "admirable memoir" in the *Journal of the Anthropol. Society* of May 1864. The same causes which, in Sir John Lubbock's opinion, have so vastly increased the happiness and glory of mankind since their first appearance on earth, promise, he thinks, to go on making us wiser, better, and happier. He is a thorough believer in "civilisation", and looks down on the "free and noble savage" as the representative of a long past period of development. Science is to make us not only more comfortable, but more virtuous; as we grow wiser, we shall also grow better; when fully convinced that "suffering is the inevitable consequence of sin, as surely as night follows day", we are to be wise

and leave off sinning. "The future happiness of our race, which poets hardly ventured to hope for, science boldly predicts. Utopia, which we have long looked upon as synonymous with an evident impossibility, which we have ungratefully regarded as 'too good to be true', turns out, on the contrary, to be the necessary consequence of natural laws, and once more we find that the simple truth exceeds the most brilliant flights of the imagination."

We have one little problem to propose to Sir John Lubbock. Granted that the Somme has been at work for twenty thousand years in cutting its way down to its present bed; query, where will it have got down to by the time when these things shall have come to pass?

THE PSYCHONOMY OF THE HAND.*

Most of the older sciences commenced as superstitions. Chemistry was long practised as alchemy, and astronomy was first studied as astrology. It would almost seem that the human mind in early ages was incapable of beholding the sublime and beautiful form of pure truth; so the heavenly visitant was veiled for a season in the gaudier robes of idealised error. It was thus that the study of the hand commenced with palmistry, in its stellar relationships a branch of astrology, and still practised with a certain amount of professional success by the gypsies. And it is as a partial revival of one of the older Magian studies, by which the present age is distinguished, that it has undergone a resurrection within the last few years.

We are accustomed to think of Paris as the centre of frivolity and fashion, of intellectual activity, and political excitement. But this is by no means an exhaustive catalogue of its manifold missions. In addition, it is a favourite seat of the occult, whose devotees seem to have made this renowned capital their especial abode. Here Mesmer proclaimed that mysterious mode of healing which still bears his name. Here Cagliostro shone with unwonted brilliancy, and attained to the culminating point of his strange and devious career. And here Levi (Alphonso, Louis Constant) still continues to publish his wondrous tomes of cabalistic lore. And of this great master of the occult, M. Desbarrolles is the favourite pupil, the one of whom he speaks in the

* The Psychonomy of the Hand, according to MM. D'Arpentigny and Desbarrolles. By Richard Beamish, F.R.S., etc. London: Frederick Pitman, 20, Paternoster Row.

highest terms, and to whom he awards that mysterious praise, which can only be fully appreciated by the thoroughly initiated.

M. D'Arpentigny belongs to another school, and has pursued the humble path of laborious observation and careful analysis. But, however able his work may be from his own stand-point, it is necessarily imperfect from ours. The truth is, the psychonomy of the hand can be but part of the larger whole of corporeal psychonomy, of which phrenology, physiognomy, and chiromny are but subordinate branches. That there is a connection between the mind and the body, whether the relationship be one of cause and effect, or of otherwise necessary coexistence, has been believed to a certain extent in all ages, and is practically acted upon by nearly all persons. We cannot help instinctively judging of people by their looks, though it does not follow that our judgment is always, or even generally correct. Our failures, however, only prove our individual incapacity. They do not demonstrate the non-existence of psychonomy, nor even invalidate the conclusions of its more competent professors—if such are to be found.

If psychonomy be possible, it must depend for the accuracy of its conclusions upon the existence of some harmonic relationship between the inner machinery of mind and the outer mechanism of body, or, to speak anatomically and physiologically, on some law of congruity between the development and functional power of the nervous system, as a prime motor, and the structure and disposition of the bones and muscles, as its more immediate instruments. Granting, then, for the sake of argument, that the science does exist, and it becomes at once obvious that its predictions will be more generally accurate in the pure than the mixed races. For, however harsh the verdict may seem, it is nevertheless quite true physiologically, that all hybrids are monstrosities, in whose production the higher laws of nature have been violated and her finer harmonies disturbed. And this superiority of the pure races, as subject matter for their operation, is candidly admitted by the authors of the work before us. Though they say, and perhaps very justly, that when the race is mixed the hand will bear traces of the impurity. Thus contemplated, then, it is obvious that the subject has a direct bearing on anthropology, of which rightly treated, it may ultimately become an important province. Its application, indeed, to individuals, with which, however, it necessarily begins, will ever be more or less empirical, till it has been mastered in its principles, and both tested and applied racially. If there be any truth in it, if hand and character go together, then beyond question hand and type go together, and there is a negro, a Mongolian, and Caucasian hand, as there is a negro, a Mongolian, and a Caucasian

cranium, together with all the sub-varieties into which these great races, more especially the latter, are known to be divided. Nor do the authors of the work before us deny this, but speak with confidence of the Celtic, Egyptian, and Hindoo hand, as readily distinguishable by a practised observer.

And of course, if races and individuals are thus forcibly characterised by their chiromnomic peculiarities, necessarily the sexes will be similarly stamped by their respective specialities. The strength of the man and the refinement of the woman, the practicality of the former and the spirituality of the latter, the reasoning faculty of the one and the intuitional power of the other, will be unmistakably impressed on their organisation, not simply in the contour of the head and the expression of the face, but also in the size, shape, and general quality of the hand. And our authors do not hesitate to affirm that it is so. And in this we think even the simplest observer will not fail to bear them out.

The following is a succinct narrative of the manner in which the attention of M. D'Arpentigny was first directed to the hand as an index of character, and from it we may perhaps obtain a somewhat interesting glimpse of his own:—

“While a very young man, M. D'Arpentigny resided principally in the country. In his immediate neighbourhood lived a rich and intellectual *Seigneur*, who had a strong predilection for the exact sciences, and more particularly for mechanics. Geometricians and mechanics were therefore amongst his most constant visitors and guests. His wife, on the contrary, was a passionate lover of the fine arts, and only received artists as her guests. As a consequence, the husband had his reception days, and the wife hers. M. D'Arpentigny, who was neither mechanician nor artist, and who therefore ranged himself under neither banner, attended indiscriminately the *réunions* of both husband and wife. Of his own hand, M. D'Arpentigny was somewhat vain. This vanity naturally led him to institute comparisons with other hands, often to his own advantage. He soon observed that the fingers of the arithmeticians and mechanics presented a knotty appearance at the joints, while those of the artists did not possess that form. In a word, the members of these societies seemed to him to differ quite as much from one another in the form of their hands, as they did in the constitution of their minds and in the nature of their social habits. The repeated confirmation of his observations very soon led him to divide men into two categories—those of the smooth and those of the knotty fingers. Connected with the smooth fingers, he observed an impressibility, caprice, spontaneity, and intuition, with a sort of momentary inspiration, which took the place of calculation, and a faculty which gave the power of judging at first sight. In this class he placed the artists. The knotty fingers, on the contrary, he observed to be connected with reflection and order, aptitude

for numbers, and an appreciation of the exact sciences. In this category he placed mathematicians, agriculturists, architects, engineers, and navigators; all, in short, who were led to the application of acquired knowledge."

A very fair beginning, it must be confessed, for the young Frenchman, and one that, followed as it has been persistently for so many years, could scarcely fail to lead him to some interesting conclusions, if not to some really important discoveries.

In his *Chirognomy*, M. D'Arpentigny, according to the editorial arrangement, treats of his subject matter in the following order:—The elementary hand, the labour hand, the useful hand, the philosophic hand, the artistic hand, the psychical hand, the mixed hand, and the female hand. From the elementary to the psychical, there is a gradually ascending series, which perhaps we may characterise as the hands of the savage, the labourer, the artizan, the thinker, the artist, and the poet (more especially as saint and prophet). Thus it may be said, that at one extremity humanity grasps the earth, at the other it lays hold on heaven. And it is a fact, that the elementary hand approaches nearest to the anterior extremity of the gorilla, while the psychical hand is at the farthest possible remove from it, the remainder being intermediate links of this stupendous chain. Now, granting that all this is not a beautiful hypothesis, the day-dream of an idealistic, and no doubt fine-handed Frenchman, it is obvious that we have here a province of inquiry, in which anthropologists cannot but feel profoundly interested, and which is certainly deserving of far more attention than it has yet received. But to be of advantage to us, it must come under the domain of minds more rigidly scientific yet more widely cultured, than that of the author of either of the works with which Mr. Beamish has made us acquainted.

Let us for a moment glance at what such an investigation, as that to which we have been alluding, really implies, what a scientific system of chirognomy imperatively demands. Through comparative anatomy, we should effect a survey, involving a carefully conducted examination of the extremities of all animate types, from the fins of fishes, through the feet of quadrupeds, up to the hand of man, not of course forgetting his specialisation, as the only true *bimanous* creature yet in existence. In such an investigation it would be most desirable to compare the development of the extremities with that of the brain and nervous system generally, and if we mistake not, it would be found that the one is generally proportionate to the other. The harmonic laws of organisation, the profound congruity everywhere observable in Nature's types would seem to imply this. In such a survey, the apparently exceptional instances, such as that of the horse, would

of course have to be accounted for, and if for a time inexplicable, would serve as indications of the imperfection of our knowledge. In all such inquiries, we may remark, that the hereditarily transmitted intelligence of long domesticated animals is likely to prove a disturbing element, and should at first be eliminated by taking only the wild species, such as the zebra in the genus *Equus*, and the wolf in the genus *Canis*. From the data thus obtained, we might proceed to an examination of the various races of men with whom true chiromnomy would begin. From race we might proceed to diversity of temperament and structure in the same race, and ultimately we might descend to individual specialities, where the grander generalisations of science would be applied practically. Now, it need scarcely be said that the work before us does not profess anything of this kind. It is simply a digest of the empirical knowledge and hypothetical notions of two acute and observant Frenchmen who do not commence at the beginning, and who certainly have not arrived at the termination of such an investigation, and whose inquiries, however suggestive, are assuredly far from exhaustive.

The Psychonomy of the Hand, we may say, is edited and translated, rather than written, by Mr. Beamish, already somewhat favourably known to the reading public by his life of Sir Marc Isambard Brunel. It consists for the most part of a series of well-arranged extracts from the writings of M. Desbarrolles on chiromancy, and M. D'Arpentigny on chiromnomy; the text being illustrated by numerous tracings of hands, many of them of living celebrities, collected by the editor during the last twenty years. Perhaps in the incipient stage of such an inquiry, it was quite proper to give us the experience even of M. Desbarrolles, notwithstanding the rather questionable form and phraseology in which it is embodied. A firm believer in astrology, magic, and palmistry, he has not hesitated to speak of the mound of Jupiter, the plane of Mars, the ring of Venus, and the line of life, with a seriousness to which the world has been a stranger for nearly two centuries. And however we may differ from him, or, rather, however ignorant we may be of these recondite matters, we yet know how to respect the strength of conviction, and to honour the moral courage which can enable a well educated man to openly and avowedly express his faith in such mysteries, amidst the science and the scepticism of the nineteenth century. Happily, however, for the reader, M. Desbarrolles is not simply a professor of astrological palmistry, but also, like M. D'Arpentigny, a most acute observer of the hand as an index of character. It is this which gives value to his remarks and suggestions, and renders them supplementary to the more scientific notices which the latter has embodied in his *Chiromnomy*.

The work of M. Desbarrolles is divided into four parts. The first embraces "Physiology of the Hand", and consists of extracts from the writings of Sir Charles Bell, and Drs. Gall, Spurzheim, Collinge, and Professor Huxley; the object being to show that the human hand is indicative of the same superiority as the human brain, and in the delicacy and complexity of its nervous structure, and the consequent fineness of the sense of touch, accurately corresponds to this higher portion of the organism, of which it is so apt and appropriate an extremity. This, as already observed, is only another instance of that law of harmonic relationship which governs the development of all normally constituted structures, whether vegetable, animal, intellectual, or, we may add, cosmic.

The second part embraces the physiology of the hand, as indicative of character, according to the principles of MM. D'Arpentigny and Desbarrolles, from which it appears that the palm is the animal, and the fingers and thumb the human portion of the hand, the anterior extremity of brutes consisting almost entirely of palm. But if long fingers be so essentially human, what shall we say to the lengthy digits of some of the *quadrumana*? But it is, perhaps, scarcely fair to press a nascent science with apparent exceptions, which a profounder knowledge may hereafter prevail to harmonise with principles whose application is yet of necessity partial and imperfect. The palm is, however, of great importance in determining character; for it seems that "two individuals endowed with similar intellectual qualities, but differing in the development of their palms, will produce widely different results." To which our reply would be that, if there is anything in the science, two individuals so differenced in their palms, could not be correlated in their faculties. We can quite understand, however, that a thick and coarse palm indicates grossness and sensuality, but when hollow and firm, mental vigour. We can also quite comprehend the general applicability of the rule, that slender and pointed fingers attach to poets and artists, the square and spatulous to mechanics and mathematicians. But alas! for the unfortunate chirognomist, if he should chance to be himself of the *square* type, and so prone to method and induction, to rule and order; for it seems that, in the dreadfully hybrid populations of Western Europe, "one finger may be pointed, while another is spatulous or square—marking the anomalous and even contradictory train of ideas by which the mind is sometimes influenced"! This, it appears from the editorial comment, is a difficulty which M. D'Arpentigny has altogether overlooked; his system assuming a uniformity which nature, labouring under the difficulties of hybridity, cannot always produce. From this we should infer that M. D'Arpentigny is himself of the pointed

and artistic—that is, intuitional and idealistic—type, and so quite capable, upon due occasion, of dispensing with an inconvenient *fact*, as being simply a failure in nature's more sublime intention. Monstrosities are not for *art*, and perhaps ought to be accounted unworthy even of science, more especially of chiromnomy!

It seems, however, that the fingers are utterly insignificant when compared with the thumb; for “if it be acknowledged that the superiority of the animal is in the hand, the superiority of the hand is in the thumb.” “Idiots, whose lives are altogether under the dominion of instinct, have very small and ill-developed thumbs.” “Generally a small thumb is the index of vacillation and irresolution. The large thumb, on the contrary, is the index of a strong will, and little general sympathy.” “Again, should spatulous fingers—the indices of action—be joined to a short, imperfectly formed thumb, the action becomes uncertain. Much will be attempted, but little will be accomplished.” These are certainly rather sweeping conclusions to be based on such slender premises. But M. Desbarrolles goes yet further than M. D'Arpentigny, and enters confidently into the minutest detail of indication afforded even by the separate phalanges. It seems the first phalanx is the index of the will. “If it exceed the second in length and power, the desire will be for domination, amounting to tyranny.” If of moderate length and very broad, it indicates prejudice. “The second phalanx is the index of logical acumen. If long and strong, logic and reason prevail over impulse and will. But should the first phalanx be short and weak, the individual hesitates to act. The root of the thumb is the seat of sensual (sexual) love; if very thick and long, of brutal passion.” “It is an ascertained fact that debauchees and unfortunate and degraded females have the root of the thumb largely developed, and the first two phalanges short and feeble.” Truly, if these things be so, it is certainly time that anthropologists should make themselves acquainted with such “ascertained facts”, and proceed to investigate the laws on which they depend.

The reader will probably think that we have already had detail enough, and in the predication of character far more, indeed, than the premises warrant. But what will he say when we inform him that M. Desbarrolles enters, with equal confidence, into the minutest specialities of each of the fingers, with their respective indications as to ability and disposition. Thus, for example, he tells us that the second, or middle finger, is *supposed*, next to the thumb, to exhibit, more than any other finger, the strength or weakness of the character. If the first phalanx be pointed, it is indicative of vanity. The second phalanx indicates a love of science; the third marks the love of earthly things; and so on, down to the little finger, which it ap-

pears, "is the index of abstract science and of numbers"! After this we must not be astonished to find M. Desbarrolles entering with equal fervour into all the mysteries of palmistry, with which, however, we will not farther afflict the much-enduring reader.

We have given this subject more attention than the work under consideration deserves, because we think that the hand has hitherto been unwisely neglected as an index of race. Let us begin by observing its connexion with temperament. Is not the psychical hand an accompaniment of the almost purely nervous temperament? And is not the useful hand, with its hard elastic palm, and knotty fingers with their square tips, a characteristic of the fibrous? The negro hand is, we presume, generally elementary. But what are we to say to the small extremities of the Mongol? It is obvious that we have yet much to learn in this direction. We want more facts. We have not yet the data which would warrant even a plausible hypothesis. Let us commence by the confession of our ignorance, by the admission of our incompetency. Let us encourage travellers, or residents in foreign countries, and among alien races, to procure us tracings, and where possible, even casts of the hands and feet of all the distinctly marked types. And let us compare these not only with each other, but also with the individual varieties and the several temperaments existing among ourselves. Let us thus endeavour to discover if there be ethnic characteristics attaching to the extremities as well as the cranium; and if so, let us endeavour to define these, and if possible, ascertain the law on which they depend. In accomplishing this, we need not despise the labours of such careful observers as M. D'Arpentigny, although we shall, perhaps, be wise to hold our judgment in suspense as to his minute predication of character from such slender indications. Let us first settle the great question of the racial hand, and then we shall be the better prepared to descend into the details of individual speciality.

ANTHROPOLOGY AND THE BRITISH ASSOCIATION.

FOR the last two years it has been our duty to comment on the position of anthropology in the "British Association for the Advancement of Science." We are sorry that our language must necessarily be different this year from what it has been on other occasions. We deeply regret this; but our duty to the public compels us to speak without reserve. If a body, though assuming a name expressly indicating as its object "the advancement of science," yet does all in its power to stay that advancement, we think it is the duty of public journalists to expose such practices. We visited Birmingham expecting to be able to give a full report of all the anthropological papers read, never anticipating that this meeting would end without an acknowledgment of the existence of anthropological science. The first thing, however, we heard on our arrival at Birmingham was that influence was being brought to bear upon the local committee by "the authorities" to induce them to throw out the motion for a special section for anthropological science which was to be made at the meeting of the general committee.

Early on the day fixed for the decision of this point, a mysterious body known by the name of the Council of the British Association had held a meeting and resolved to oppose this motion. This organisation deputed Sir R. Murchison to announce this decision, and in justice to him we must say he did so with all becoming pomp and dignity.

We, however, somewhat anticipate the course of proceedings. After the ordinary business of the general committee had been transacted,

DR. HUNT moved, in pursuance to notice given by Mr. Carter Blake at Bath last year, in his unavoidable absence, that a separate section be set apart for anthropology. In moving the resolution, Dr. Hunt went into his reasons for so doing at some length, premising his remarks by urging that his motion was not brought forward in any spirit of rivalry or antagonism to any other society having a different name, and that it was simply brought forward from a desire that anthropology, or the science of man, might be discussed on its merits, and in a calm scientific spirit. The same thing which he was now bringing forward was advocated some twenty years ago by the late lamented Dr. Prichard, but at his death, in 1848, ethnology—as a part of the science of man was then called—lost its chief supporter, and it was added to geography, which had been taken from geology. From this time geography was so popular that ethnology had had no chance, and any member wishing to read a paper upon it had been compelled to wait until almost the close of the section, when the author was requested to state the objects of his paper, or simply read the title. Since the death of Dr. Prichard, the science of man had

been making progress through the whole world, with the exception of the British Association, where it could never make progress so long as it was connected with geography. With regard to the offer kindly made to cut them up and send them to other sections, he did not agree with it, because no science could make satisfactory progress if its harmony and unity were destroyed by being sent piecemeal into a variety of sections. The anthropologists had forty-two papers to submit; sixteen being upon historical anthropology, which was a part of the science of archæology; others upon descriptive anthropology, and the remainder upon comparative anthropology, by some called ethnology, and in order to bring these papers forward they wanted a section, let it be called by whatever name they thought proper. For the information of those not acquainted with the science, he remarked that there were societies already established in Paris, Madrid, and New York; an anthropological journal had just been started in Germany, and societies were about to be established in St. Petersburg, Canada, Melbourne, Calcutta, and Lahore, in addition to which, applications were recently received in London for the formation of societies in Manchester, Glasgow, and other flourishing cities of the kingdom. He had heard that the motion which he had made was likely to be defeated by local influence, but he hoped this would not be the case, inasmuch as the matter was not one of local but of world-wide importance. He did not think the objection, that by passing his resolution the number of sections would be increased beyond what could be accommodated, ought to influence the meeting to negative the proposition, because arrangements could easily be made by which this difficulty could be obviated. It had been suggested that Palæontologists ought to have a special section, and to this he replied that there was not a special Palæontological Society in London, but that this subject formed a part of the work of the Geological Society. In conclusion, he trusted that the British Association was not too old to adapt itself to the wants of the time, and trusted that the general committee would pass the resolution, and thus do something for the progress of the science of man.

Rear-Admiral Sir EDWARD BELCHER seconded the motion, not so much because he understood anthropology, as because he wished all classes of the scientific community to have fair play.

Sir RODERICK MURCHISON said, as the representative of the council, he was authorised to move a direct negative to the resolution which had been moved by Dr. Hunt. He had as profound a reverence for the science of man as Dr. Hunt or any of his associates; but from the foundation of the British Association it had been found necessary to restrict their sections to seven. There were many reasons for this, and amongst others it was necessary because there were in England towns and cities, deserving by their importance of the patronage of the British Association, which could not derive the advantage of it, because they could not accommodate a large number of sections. Another reason was, that this was the first proposal that had been made during thirty-four years to create an entirely new section, and he feared that if the request were acceded to there were other sciences that would at once put in similar claims, and great

difficulties would result. Some years ago, agriculturists wanted a section; but the success which had attended the establishment of an exhibition of fat bulls and cows, and agricultural implements, showed that they did right in refusing to receive them. An offer to include phrenology had been made and declined. He therefore thought, as an old president of the Association, that they would not do well to depart from their fundamental rules, and recommended the members of the Anthropological Society, if they wanted to push forward their science, to hold a separate and distinct conference of their own. Sir Roderick concluded by saying that Professor Owen, who was a great authority on the science, had expressed an opinion that a new section was not necessary, and that the Anthropologists had better hold a congress.

Mr. W. R. GROVE, Q.C., observed, as an old member of the Association, and one who attended various sections from the beginning, he might be permitted to say a few words on the subject, not in opposition to the claims of anthropologists, but on the general question of the expediency or non-expediency of increasing the number of sections. He would not say one word in depreciation of the science so ably advocated by Dr. Hunt. It was a question of whether a body like the British Association could be managed with too large a number of subdivisions. He did not deny that any new science had claims upon the Association, but whether it was advisable that it should be represented by a separate section. He illustrated his remarks by the science of electricity, the which it was a matter of opinion whether it belonged more to the chemical than to the physical. If anthropology was to have a section, why should not the claims of electricians also receive the same attention? but he never heard that they complained that they had not a separate section. He thought the claims of the former were more allied to other bodies, and it was not advisable that a separate section should be allotted to it. He submitted that it should not be done without due deliberation, and would lead to extreme danger if settled otherwise. Were the Association subdivided in the manner proposed, the attendance of members at the several sections would be much scattered, till finally not more than ten members might be found attending each section. The question, however, would find its level by fair discussion, although he thought there was nothing in anthropology which could not be adequately represented by the ethnological or physiological sections.

Mr. THOMAS TATE thought anthropology worthy of a place in a separate section of the British Association. He dilated on the great good the Association was doing, and inquired if there was no means of multiplying the sections. It had not been tried, and therefore it could not be said to be impracticable. He had no hesitation in believing that if the council were earnest in their desire, the ways and means might yet be found. Anthropology was a science which claimed the attention of the whole civilised world, and should therefore most certainly be countenanced by the British Association. Science had increased vastly during the last thirty-five years, and the science of anthropology was increasing very fast. There were no less than forty-four papers which the Society were desirous of laying

before the Association; and yet those important papers could not find a place in any one of the present sections. In conclusion, he did hope the Association would grant a distinct section for the study of the science in question.

Dr. E. PERCEVAL WRIGHT rose to move an amendment. A great number of papers referred to he should be sorry to lose, for it was always a matter of difficulty to draw distinctions between the value of one science and the value of another, and for that reason he should like every possible information to be received on a subject claiming so much attention. He thought that it might, very well be incorporated in section D. In that section they had not the number of papers they ought to have. He thought by that arrangement both sections D and E, the latter treating on geography and ethnology, would be improved thereby, although, for the sake of not giving cause for complaint to existing members of sections D and E, he would substitute the word ethnology for anthropology. He moved, "That sub-section D be henceforth devoted to human physiology and ethnology." He substituted the last word also because he thought it a better word than the other.

Mr. A. R. WALLACE seconded the amendment.

Mr. CRAWFURD hoped it would not be fancied that there was any hostility between himself and Dr. Hunt, who was at one time honorary secretary of a society to which he (Mr. Crawford) was president. He held in his hand the Anniversary Address of the President of the Anthropological Society, which consisted of thirty-two pages of letterpress, eighteen of which were devoted to a consideration of the three titles, ethnography, ethnology, and anthropology, and the preference was given to the latter, for reasons which he could not see. Anthropology was a term of vast antiquity, first used in the first year of the sixteenth century, in the year 1501—very properly, in his opinion, at the fag-end of the dark ages—it was, to his taste, an ugly polysyllable—by a man named Hundt, who, it was possible, might have been an ancestor of Dr. Hunt in the twelfth generation, and who was also called *Magnus Canis—Anglicé*, "Big Dog,"—and who wrote a work called *Anthropologia*. The word then consisted of six syllables. It was now reduced to five, or, commercially speaking, was 20 per cent. less. The word was still too long, for the world called the anthropologists anthropos, with a long accent on the last syllable. The whole of the word was, in his opinion, too long, and he recommended the meeting to negative resolution and amendment alike.

Dr. LEE, F.R.S., moved, as a further amendment, "That sub-section D be devoted to human physiology, ethnology, and anthropology."

Mr. C. CARTER BLAKE seconded this amendment.

Dr. ACLAND did not wish to support the amendment or the original motion. He hoped that all interested in the study of man would bring their quota of information through the medium of papers, without endeavouring to establish a distinct section.

Professor PHILLIPS observed that if the movers and seconders of the amendments would withdraw them, he thought he should have something to suggest which might be of service to all parties.

Dr. PERCEVAL WRIGHT thought it would be a rather dangerous precedent, and declined to withdraw his amendment, as also did Dr. Lee.

Professor PHILLIPS said then he might go on to say that the Association did not object to the introduction of new sciences, or branches of sciences treated in a new form. He, and all, wished that all subjects should be discussed with the greatest possible advantage to the progress of science. With respect to the formation of separate sections in addition to what they already had, he could not go so far as some of them did; there must be a limit put to the sections. He alluded to the science of statistics, which had undoubtedly a just claim, and which was, with economic science, comprised in one section. He did not think it was intended to propose general measures at the meeting. It was certainly their parliament, and they had to legislate for the good of the whole body, so to speak, and were desirous of doing justice to all; but he must be permitted to express an opinion that to pass a motion like Dr. Hunt's was rather premature, especially without further and more mature deliberation. The motion should have been first submitted to the sections' committee, then next referred to the committee of recommendations, and come before the general meeting of committee for confirmation or rejection. The Association had great confidence in those committees, and they reflected great credit on the Association. He should propose eventually, as endorsing a principle which had long been held in operation, a motion embodying the above views, which he thought might be of use in removing difficulties, "That in future all proposals for establishing new sections, or altering portions of sections, or for any other change in the constitutional or fundamental rules of the Association, be referred to the committee of recommendations for a report."

The CHAIRMAN said, if he understood the matter rightly, there was no desire to take it out of the power of the general committee to decide the question, but simply to refer it to the committee of recommendations as a preliminary step.

Dr. HUNT said he would not, after the strong expressions of some of the members of the committee of recommendations, consent to refer the motion to be decided by them, but he was willing to submit it to the decision of Lord Stanley, Sir Charles Lyell, and Professor Phillips.

LORD STANLEY said his attendance at the meetings had not been such as to warrant him in accepting such an office.

After some little further discussion, amidst loud cries of "vote,"

The CHAIRMAN (Sir Charles Lyell) referred to the strong feeling pervading the members against multiplying sections. He thought the matter required further consideration. For, as new sections were formed or subdivided, it became necessary to go to rich places,—important towns,—because small ones could not find the requisite accommodation for so large a body of visitors as the British Association, and a larger number of sections. There were parts of the country where there was no great wealth, such as Norwich, where there were a great number of students—isolated students of science—who, if they were brought together by the visit of the Association, might be numbered among them, and assist in the great work of scientific inquiry. In answer to the assistant-secretaries' inquiries as to

accommodation, they replied that it could not be found in their towns for so large a number of sections; and yet those places might have been visited with considerable advantage to the Association, and to the advancement of the interests of science. The discussion, however, would not be unattended with benefit, as it would doubtless induce all the sections to have such papers as those referred to, were they submitted to them again. They would, were they of sufficient merit, be read somewhere, as they ought to be. All those forty papers ought to be read in some place or other.

The CHAIRMAN, after a little confusion, then put Dr. Lee's amendment to the meeting, and about forty hands were held up in its favour, and about sixty against.

Dr. Wright's amendment was then put. About fifty hands were held up in favour, and sixty against.

Dr. Hunt's original motion then being put, the votes, as near as we could ascertain, were about fifty in favour, and about seventy against. Consequently it was also rejected.

Professor PHILLIPS then submitted his resolution to the meeting, which, being seconded by Mr. GALTON, was carried, only about half a dozen hands being held up against it.

Now the first question that is suggested by a perusal of the above report of Sir R. Murchison's speech is, by what authority the Council discussed this matter at all? When it was proposed to introduce the word Anthropology into Section E, this same gentleman then too came forward, and, on behalf of the Council, moved a direct negative. We utterly protest against this interference on the part of the Council with matters which should be discussed and decided by the General Committee alone. Either the Council have entirely exceeded their powers in coming to any decision whatever on this point, or Sir R. Murchison has taken a most unwarrantable liberty in making the statement that he was "authorised by the Council." We heard of this decision of the Council before the meeting of the General Committee was held. We have reason to believe the influence of the Council was largely set in motion to deter independent members of the Association from voting for the recognition of anthropology. To vote against the decision of the Council, appeared to some persons something terrible.

We are glad, however, to be able to record that these fears did not affect a goodly number of the meeting, and in spite of all the influences brought to bear, one of the resolutions was nearly carried in one of the largest meetings of the general committee ever known. Sir R. Murchison professed to have a reverence for the science of man; but to judge from his comparison of anthropology with phrenology, he showed that his reverence is largely combined with imperfect knowledge of the nature of anthropological science. Perhaps, for the future, Sir R. Murchison will remember that phrenology is generally believed to be either a system or a theory, and that anthropology is a science and

advocates no especial system or theory. We think that the mover of the resolution was very much to blame for not having informed Sir Roderick that anthropology bore no resemblance to the exhibition of fat cattle and agricultural implements.

With regard to the two statements "that it had been found *necessary* to restrict their sections to seven", and "that they would not do well to depart from their *fundamental* rules", it unfortunately happens that it has not been found *necessary* to restrict the sections to seven in number, and that this is not one of the *fundamental* rules of the Association.

The other "reason" given, namely, "that this was the first proposal to create an entirely new section which had been made for the last thirty-four years", is equally unsupported by facts. In 1844 a proposal was made for a special section for ethnology, and although supported by such men as the late Sir Charles Malcolm and Dr. Prichard, it was opposed by the same parties who now so loudly boast of what they have done for the progress of science.

With regard to the assertion that Professor Owen had written to Sir R. Murchison, to the effect that he thought it would be best for anthropologists to hold a special congress, we are not in a position to contradict that assertion. It would, however, be interesting to know what Professor Owen really did write, not so much because his opinion upon this point is of any special value, as for the purpose of ascertaining upon what evidence this statement was made to the general committee.

We were informed by the delegates of the Anthropological Society that no communication of this nature had been made to the officers of that Society, and if Professor Owen wrote such a letter as that described by Sir R. Murchison without intimating his having done so to them, we have only to say that it redounds very little to his credit. We see Professor Owen's name on the list of Honorary Fellows of the Anthropological Society, and we should be very sorry to learn that he had intentionally done anything to injure the cause of anthropological science in this country. We trust that the official report of Mr. Blake will effectually exculpate Professor Owen from any blame in the matter.

We have little or nothing to add to the report of the other speakers. Towards the end of the discussion there appeared to be no little confusion. No chance of reply was given to Dr. Hunt, and another gentleman who rose to support the cause of the science of anthropology was cut short by the impatience of the meeting to come to a decision.

One thing not noticed in the foregoing report—but noticed by some of the London daily papers, was the fact that the mention of the word

anthropology seemed to excite the amusement of many in the audience. This is a very hopeful and satisfactory sign of the times. Not a word was said against the term anthropology by anyone except Mr. Crawford, who we much regretted to see was listened to with great impatience. Mr. Crawford, however, mistook the point under discussion, as Dr. Hunt expressly stated that he would not insist on the name, but wanted the *thing*—a special section for the science of man.

We now have to record what appears on its face as great a piece of cliquesism and jobbery on the part of a public body as was ever witnessed. Without a minute's notice, and at the end of the same meeting,

Professor PHILLIPS rose and said he was requested by the Council to propose "That, in future, all proposals for establishing new sections, altering the titles of existing ones, or making any other change in the constitutional forms and fundamental rules of the Association, be referred to the Recommendation Committee for a report." Professor Phillips explained that his resolution was not directed against any of the motions just negatived by the meeting, but was brought forward on broad grounds, and with a view to prevent hasty and perhaps faulty legislation.

Mr. PENGELLY asked if it was regular to propose such a motion without notice.

Professor PHILLIPS replied that such a privilege had never yet been denied to an officer of the Association.

At this time, Professor Phillips was, however, not an officer, and the unseemly haste with which this resolution was passed at the fag end of a long meeting was not calculated to impress the people of Birmingham with much respect for either the business habits or the wisdom of the general committee.

Notwithstanding Professor Phillips's disclaimer that this resolution was "not aimed against any of the resolutions just negatived", it reached our ears that a prominent member of the Council stated that the resolution was prepared specially with the intention of being the "coffin of the anthropologists."

Now this interference of the Council and of the Committee of Recommendation opens up a very serious question, and it is not difficult to predict that if such legislation is allowed discord will be introduced into the Association, and that when this takes place, it will soon lose its hold on the respect of the public.

The effect of this resolution will be to throw all responsibility of future legislation on this Council. Sooner or later, it will happen that a report will be brought up by the Committee of Recommendations which cannot be accepted by many of the members, and a division must necessarily ensue. If the division should be against the Council

or Committee of Recommendation, it will make them appear somewhat ridiculous in the eyes, not only of the Association, but of the whole scientific world. The Council, as a body, were quite strong and influential enough to have effectually prevented any hasty legislation, and with unity of action no new comer would have had a chance. The cause of anthropological science must be both good and strong, when it is necessary to have recourse to such legislation to oppose it. We feel ashamed to believe that men in position would so far be led away from their duty towards the cause of science as to act in such a manner as this; but grave suspicion now rests upon them.

We shall be very glad to hear that such is not the fact. We would not for an instant impute to the members of the Recommendation Committee a knowledge of the object of the proposers of this resolution. We are also quite ready to believe that Professor Phillips acted in good faith; and yet we fear that the confession of a prominent member of the Association is the real truth.

If these reports are true, and they have come to us on good authority, we say most distinctly that anyone capable of organising such opposition to the progress of the science of man, and of boasting that he had "made the coffin of the anthropologists", must indeed have sunk immeasurably in the scientific scale.

We should much like to know the cause of this desire to bury the anthropologists. It was currently reported that the freedom of discussion which has prevailed in the Anthropological Society had induced a fear lest something of the same sort might find its way into the new section. If this were done, they said, "We shall get the parsons about our ears". We heard, too, of some extraordinary remarks respecting the title of one of the papers which was to have been submitted to the Association. This paper was entitled, "On Monogeny and Polygeny", and anthropologists were told that such a paper would not be received, "as it would bring on a discussion on moral questions". This was repeated more than once, until at last it was found out that the words "monogeny and polygeny" were mistaken for "monogamy and polygamy". The title of this unfortunate paper, we believe, lost several votes with the General Committee. This fact may be sufficient to indicate to our foreign readers the amount of knowledge of anthropological literature possessed by some men of science in this country.

And now we come to the papers read in the different sections on anthropology. The delegates of the Anthropological Society took up altogether upwards of forty papers, and out of these Section E consented to receive five and Section D (zoology and botany) about twenty. A difficult question now arose, and the members of the Society in Birmingham met at Queen's College, and all agreed that it

would not be advisable to read papers on questions of general anthropology in a section devoted to zoology and botany.

About twenty of the papers in the charge of the delegates of the Anthropological Society were on early archæology, or, more correctly, on historical anthropology. These Sir R. Murchison stated did not come within the sphere of the British Association, and with the exception of Dr. Hunt's paper "On Zetland", they were all refused by both Section E and D. On the day before the section separated, two papers were read in Section E, "On the Discovery of Flint Instruments at Pressigny"; and one "On the Bronze Age". The authors of these papers of course did not agree with Sir R. Murchison.

We regret to state that we have never seen such a poor show of papers as those read on this occasion in Section E. The geographers had, it is true, one new paper which gave an interesting description of the ascent of the river Purús in South America. The rest of their papers were wholly insignificant, and most of them had been read before in London. Mr. Crawford read three papers, all of which had been previously read and fully discussed and reported in London. Papers also by the Rev. F. W. Farrar and Mr. Dunn were read to the Section, although they had both been read before in London.

The ethnologists were not so particular as the anthropologists; for they sent off a batch of their papers to Section D. We believe they sent there four papers, of which three at least had been read before in London—viz., Mr. Markham's, "On Arctic Highlanders"; Dr. Rae, "On the Esquimaux"; and Rev. — Thrupp, "On the Domestication of Animals".

Dr. Hunt called the attention of Section E to the fact of papers having been read before in London, but it will require many years to put an effective stop to this nuisance.

Mr. E. B. Tylor read a paper "On the Language of the Negroes of Surinam", which elicited from the Chairman the most satisfactory information for anthropologists, "That language is the easiest and surest test of race".

The papers by Dr. Charnock and Mr. Crawford, "On Cannibalism", elicited some extraordinary discussion, of which the following is a specimen:—

Professor RAWLINSON said there were many motives which led to cannibalism, and he thought hardly sufficient importance was given to them. Amongst these motives he alluded to those excited by angry passions, by revenge, or from motives of religion. He protested against the assumption that human beings were originally in that poor and destitute condition, and that they all rose from a state of barbarism. He held the very opposite opinion that they were created in a state of considerable civilisation, and that most of the races had

declined, and that while many races had declined into absolute barbarism, some races had never declined. The Egyptians, Babylonians, and Jews had never declined. He thought there were some races of man who had no real liking and pleasure in eating human flesh.

Mr. THOMAS TATE did not believe there was anything in man to predispose him to cannibalism. He mentioned the case of the son of a New Zealand chief, who lived with him, and who said he had eaten human flesh, but it was after a battle only; but the same young man was addicted, when with the speaker, to eating candles.

Mr. CARTER BLAKE contended that the old Spanish law which allowed a son to be devoured rather than a fortress to be surrendered, was a genuine one, and really meant what the words implied.

Dr. JAMES HUNT observed that the fact of cannibalism having begun in the stone age was an effort of the imagination only. There was no evidence to support such a remark. He objected to the theory of all races having at one time lived in caves and trees. They were only now beginning to study the primitive history of man. The dogmatic assertions contained in Mr. Crawford's papers were the things which had brought science into contempt. There was neither time nor inclination to discuss the important questions under consideration, nor would there be until a special section was devoted to this subject in the British Association.

Mr. BYRNE said he could prove beyond dispute that six thousand years ago there were not six people in the world. It was published in a two-guinea book of his. The book was out of print. It was not for sale. He was not a bookseller; but the book was in the British Museum.

Mr. E. VIVIAN believed in the historical evidence of the origin of man; and also believed implicitly in the geological evidence. There had been, in the records of the past, traces of men of so extremely low type that they could have had nothing to do with Adam, and could not have degenerated from him. They could not be blended with the Caucasian race. With Adam there came in a race—a higher race of human beings; and the history of the world commenced with the well-authenticated sacred history, which so thoroughly fell in with all the facts that had been brought before them. The other races may have come from the *Quadrumana*.

Mr. KENNETH MACKENZIE protested against the manner in which the discussion was being conducted. The science of man was an inductive science. He was ashamed to see how an important science like anthropology was treated by the Association. He had heard of this before, but now he had seen the real state of affairs he was determined to attend the Association every year, and would protest against the present state of things even if he found no supporter.

Mr. CRAWFORD in his reply gave a lengthy criticism of Dr. Hunt's last address to the Anthropological Society. In replying on another of his papers, he gave the section a general *résumé* of the publications of the Anthropological Society, together with some critical remarks on the same.

Another original paper was read by Dr. Charnock, on the gypsies, and one by Mr. Carter Blake, on a skull from Louth; but as they will both be submitted to the Anthropological Society, we need say no more of them here. On reference to the file of the Birmingham papers, it will be seen that there is really nothing worth reprinting. The section was thinly attended, and a general languor prevailed in the discussion. An important paper by Mr. Mackintosh, on the Comparative Anthropology of England and Wales, was obliged to be received with silence for want of time. A paper by the Rev. Dunbar Heath was announced to be read on the last day, but there was no time for it. Section E needs only to proceed in this fashion for a few years, and it will no longer be even the ladies' section. As far as section E is concerned, we have no hesitation in asserting that this section should be known as the one set apart, not for the advancement, but for the conservation of the science and traditions of the past.

Some questions were asked why Dr. Hunt did not read his paper on Zetland, and the reply given was that he was quite willing to do so when the other papers in his charge, of a similar class, had been read. None of these papers would, however, be accepted.

And now we come to another phase in the history of this meeting. In the committee of section E, on Monday, a proposal was brought forward by Dr. Hunt that anthropology should either be recognised in section E, or that a special section should be appointed for anthropology and ethnology. After some discussion the proposal was lost. The next day, Mr. K. R. H. Mackenzie brought forward a motion to settle the dispute unfortunately existing between ethnologists and anthropologists. After some discussion, the words "Science of Man" were substituted for the word anthropology, and this resolution was passed without a single dissentient voice. Not one hand was held up against it. The following was the resolution: "That it is highly desirable to establish a section or sub-section for the discussion of the science of man; and it is moreover urged upon the consideration of the committee of recommendations to take such action in the matter as will effectually prevent the limited time of the section being wasted for the future."

This was at last some victory, and the disputes between ethnologists and anthropologists seemed about to close, and all likely to act harmoniously together for the common advancement of science. The section of ethnology had unanimously recommended that a "special section or sub-section should be devoted to the discussion of the science of man," and it was only reasonable to suppose that this recommendation would be acceded to. The resolution was sent in, the committee of recommendations met the same day, and it was

reported that they had agreed to the recommendation of section E, and that a special section would for the future be devoted to the science of man. Under these circumstances, the anthropologists felt that the matter no longer required special attention on their part, and they determined to accept without a word of complaint whatever might be the decision of the recommendation committee as to the name of the new section or sub-section. On the morning of the appointed day, they were again informed that the resolutions proposed by the committee would result in the appointment of a special department for anthropology in the biological section.

All this was believed. When Mr. Francis Galton read the report of the committee, there appeared to be some doubt as to the position in which the question was left; but when the President of the British Association rose, in the person of Professor Phillips, and assured anthropologists that the effect of these resolutions would be to give them all they required, it was thought advisable to ask no questions; and the general committee proceeded to the next business.

At the conclusion of the meeting, the delegates of the Anthropological Society went to Professor Phillips, and asked for further particulars. They were then told that it was not intended to remove ethnology from section E; but that anthropological papers could be sent to the biological section. We believe that these gentlemen at once protested against such an arrangement, and gave it as their opinion that the question was as far from settlement as ever, and that wherever ethnology was located there too must be anthropology.

We ourselves look upon the rejection of the recommendation of section E as one of the most disgraceful pieces of cliqueism ever known in the British Association. It is not alone an attack on anthropologists, but a direct insult to ethnologists. And why were the whole committee of section E to be thus insulted? At first sight it must appear that there could be no object in keeping ethnologists in section E against their will; but to those who do not know the real position which geographical science occupies in this country, it may be well to inform them that unaided by ethnology it could not supply enough papers for an entire section, or attract much attention on the part of the public. Ethnology is thus to be kept with geography, and used, as heretofore, solely as a convenience. This is a very pretty piece of jobbery; but we do not think it will be permitted to exist for any length of time by such a body as the British Association. Here we see the first fruits of the resolution so irregularly proposed by Professor Phillips.

It must be borne in mind that the general committee of the Association is of itself the governing body, and that their number is small

in comparison with the aggregate of members. This proposal for referring all resolutions to the committee of recommendation for a report did not emanate from an independent member of the general committee, but was proposed by a prominent member of the recommendation committee, and the general committee were asked to give the power to himself and his colleagues. Now, unless the British Association desire voluntarily to commit suicide, we should strongly urge them to give up this resolution, and once more permit the power of decision to revert to the general committee. We see nothing but danger to the best interests of the Association in attempting thus to keep all the power in the hands of a few.

The responsibility of the decision before rested with the committee, and as long as this was the case we should never have said a word against their decision. Now, however, the decision rests with men who have both publicly and privately expressed themselves averse to the claims of anthropology.

We hope that it will not be left to anthropologists to see that this resolution is rescinded; but we must urge on the officers and council the advisability of taking this step without further public exposure. At present the resolution is only a false step; but persistent adherence to conduct so contrary to all principles of good government and justice would be a crime. Englishmen are naturally jealous of any infringement of their liberty, and unless the British Association is to become an annual political meeting, where parties are to be arranged as liberals and conservatives, we can foresee nothing but harm likely to result from such power being given to any selected body. What would the council be obliged to do if the general committee refused to agree to their recommendation?

The next point is the probable future position of the science of man in the Association. A facetious contemporary remarks on this subject,* "Section D will include both ethnology and anthropology, while, as section E still retains ethnology attached to it, the science of man will have a home in section D, and a partial home, also, in section E."

The science of man is thus not only to be a convenience to section E, but, as we understand it, is to perform the same interesting function to section D. This section is for the future to be the grand Biological Section, with one head, and several tails if necessary. Papers are to be classified by this august body; and anthropological papers bearing on physiology will be sent to that department, and, if they cannot all be got rid of either in this way or by being read in the Biological Section, a special department will be formed. This is a pleasant and

* "Athenæum", September 16, 1865.

most encouraging picture! Had ethnology been included in this grand section, the injustice to anthropology would certainly have not appeared to be so glaring; but, by its exclusion, the whole proceeding savours strongly of jobbery. It pained us, indeed, to hear such a name as Sir R. Murchison's associated—upon credible authority—with such manœuvring. Many geologists, we believe, hold Sir Roderick in great respect, some from motives of expediency, others on account of his real merits. As a government official, Sir Roderick Murchison has a perfect right to treat his geological subordinates in any manner he likes: but he must remember that, although "the senior trustee", he has not yet been crowned emperor of the British Association, and that it is unbecoming of him to play an emperor's part until the coronation actually takes place.

We have looked back at the history of ethnology in connection with the British Association, and find that for some years there was a subsection of ethnology, and a special section for physiology. In the first twenty years of the existence of the Association, physical geography formed, very naturally and properly, a part of Section C, then known under the title of "Geology and Physical Geography". It would be most desirable to return to this arrangement; and we are glad to hear that, at an early opportunity, a proposal will be made to carry this into effect. It will, we believe, also be proposed that Section E shall be entirely devoted to the science of man. This is both a practicable and a desirable plan. Geography is too unimportant a science to fill an entire section. The only part of geography which is worthy of the name of science is physical geography; and this is without doubt a part of geology. By examining a record of the geographical papers read since 1850 in Section E, or the recent *Proceedings of the Geographical Society*, it will be soon evident that geologists need not fear that they will have a great accession of papers. A paper on physical geography in Section E, or in the Geographical Society, is in the present day a rare occurrence. Whatever may be the future of the Geographical Society, we think that the British Association will do well to get rid of those semi-sensation or hero-worship exhibitions, which have become too much associated in this country with the word geography.

In any case, the science of man should have a section in the British Association; and we think that not many years will elapse before this takes place. It is quite out of the question, in our opinion, for anthropologists to be included in the Biological Section, unless ethnology is so as well; and why not, also, economics and statistics? We, however, hold the principle of a large biological section to be a radical error. Science can only be advanced by special students meeting

together; and a biological section is a very grand, but, we anticipate, a most unpractical affair.

We repeat that anthropologists must be in company with ethnologists; for anthropologists hold ethnology to be a part of anthropology, while the ethnologists contend that there is no difference in the meaning of the two words. Both parties, however, are thoroughly agreed that they cannot be separated. Let us now urge them to coalesce and send back physical geography whence she came, and thus be able to take Section E as their natural inheritance.

We may expect to receive the denunciations of some one, if not more, of the members of the Association, for a suggestion of this kind; but, if we do not mistake, the British Association will not much longer quietly put up with the excessive amount of toadyism which has now been for some years introduced into its meetings.

The foregoing remarks we have been obliged to make, not so much as a matter of choice, but as one of stern duty.

We are far from wishing to say one word which could in any way lessen the respect which all scientific men ought to feel for the British Association. We have not the least cause of complaint against that body, or even against the General Committee, which Professor Phillips very properly the other day called "our little parliament". We only ask that the power of legislation shall be restored to this body.

We deeply regret to perceive that Professor Phillips did not seem prepared to act up to the principles which he enunciated at Newcastle, viz., that the Association had no fixed rules, but must adapt itself to the progress of science. This was an admirable sentiment, and it would have been well had it been adhered to. We are at a loss, too, to know how Professor Phillips could deliberately say at the last meeting that the alterations made in Section D would prove entirely satisfactory to anthropologists. A contemporary* remarks:—

"The British Association has met at Birmingham, and its first business has been to refuse its recognition to the science of anthropology. This we regret, not on account of anthropology, which can take very good care of itself, but for the impression it will create abroad as to the sectarian disposition of English men of science. The motion of Professor Phillips, whilst it explains the reason of the decision, goes, however, much further. It is settled that the doors of the Association are closed to all new comers. The circle its energies are to fill is complete. There is only one thing left—the title should be altered to that of 'The Association of *Exact, or Physical Science*', and no further misunderstanding or disappointment could possibly occur."

* "The Reader", September 9, 1865.

There can be no doubt that the proposal made by Professor Phillips, on behalf of the Council, is a severe blow, not only to anthropologists, but to all future proposals. As we said before, we are delighted to think that such legislation has become necessary. The next contest will take place either at the last meeting of the General Committee next year, or at the first meeting the following year. Fortunately, anthropologists in this country do not lack an audience to listen to their communications: this they have in London. It is not their especial wish to read any papers before the British Association. At Bath they withdrew all their papers; and only four out of forty-three were read at Birmingham, and these at the request of the Fellows of the Anthropological Society resident in that town.

One word, in conclusion, to anthropologists. The result of the Birmingham meeting of the British Association has done more than anything else to advance your cause. The press has looked on, and learnt somewhat of your position. Your cause is seen to be good; all that is now required is patience and unity of action. We heard of several gentlemen who had solicited to be proposed as Fellows of the Anthropological Society, simply that they might more effectually assist in fighting the battle of scientific progress against the "rest and be thankful" members of the Association, as well as against the clique who are fast making the British Association a family party, instead of doing all in their power to make this institution a national body.

With regard to the contemplated anthropological congress, the reasons for not holding it will doubtless be given to the Anthropological Society. We believe that invitations have already been received to hold a meeting next year, and we do not wish to prejudice the case by making any remarks. This is a question for the consideration of the council of the Anthropological Society, and we feel sure that this body will act in this matter for the benefit of science. They will, we trust, do this at their own time, and will not be influenced by any pressure from without. In our last number* we said:

"We should indeed feel ashamed of the obstinate *John Bullism* which alone can continue to exclude this science from a recognised position in our English national scientific congress; but now that the authorities are in full possession of our claims to their consideration, and our grounds for desiring an independent position in the Association, we cannot anticipate such a result. Should, however, so fatal a mistake be made by the ruling powers of the Association as to deny this position to anthropology, now so temperately urged upon their notice, let it not be thought that the anthropologists will be silenced and their science crushed under foot."

* P. 228.

It is three months since these words were written; now we have to acknowledge a defeat, but a defeat secured, however, in such a manner as really to be a victory. Anthropologists have met with much opposition, and this fresh onslaught on them will merely assist them in carrying out their objects. Up to this time they have been obliged to fight against unknown enemies in the Association; now they have become known, and this knowledge is of itself a relief. We feel quite confident that had not all the might and influence of the council been thrown into the scale, and something very like intimidation brought to bear as well, that a special section would have been carried by an enormous majority. We now beg to throw out the following suggestions for the consideration of our readers, with a view to recur to the subject again on an early occasion.

1. That the council of the British Association had no right (morally or legally) to authorise any one to announce the decision to which they may have come, and that their attempt to prejudice the discussion of the case was both unfair and unconstitutional.

2. That the motion made by Professor Phillips was proposed without previous notice, and the passing of the same is therefore null and void.

3. That the recommendation sent up from section E was treated by the recommendation committee as no recommendation has ever been treated before.

4. That it is desirable that physical geography should be again sent to the geological section.

5. That section E should be especially devoted to the science of man.

These are briefly our views on the subject, which, however, may be modified by future events. We suppose this matter will be discussed at the first meeting of the Anthropological Society. We hope that all the fellows of the Society will work harmoniously together to gain the end they have in view, which is the same as that of the British Association and ourselves—the real advancement of science.

Miscellanea Anthropologica.

On some Ancient Skulls.

MY DEAR SIR,—The portions of skulls which I have the pleasure of submitting to your notice,* were obtained by me many years ago in the manner I will briefly relate. The largest portion of skull I procured from a labourer who found the skeleton in a barrow which he was engaged in levelling on the down near the race course at Blandford. I am unable to state the relative situation of the skeleton, or the position in which it lay, but the tumulus was decidedly Celtic, and the interment was probably of the same æra. It was accompanied with fragments of deer horn. I regret that the cranium is not entire, but there is enough of it remaining to shew that it belongs to the dolichocephalic type, and possesses an organisation not inferior to that of a more civilised race. The frontal bone presents the medial suture, which is not of very frequent occurrence in modern skulls, but which I have often remarked in Celtic crania. The same feature exists in one of the accompanying frontal bones, which I procured in the course of researches in the Romano-British Cemetery discovered by Mr. Medhurst at Jordan Hill, in the parish of Preston, near Weymouth, in 1844. The appropriation of this bone is more doubtful than that of the other; and it is hard to say whether it belonged to an individual of the indigenous race, or to one of the people by whom that race was subjugated, for their bodies were no doubt deposited here side by side. The third specimen was found by me in a bank by the roadside, in the parish of Gussage All Saints, Dorset, cropping out, as I believe, from the side of a tumulus which was intersected at the time the road was made. This I consider to be a Celtic specimen. The neighbourhood abounds with Celtic tumuli. The remaining specimen of a frontal bone I obtained from a quarryman in the Isle of Portland, who found it in company with other bones, both human and animal, in the progress of his work. I regret that I was merely fortunate enough to secure this imperfect frontal bone with a part of the jaw of the domestic (?) ox, which accompanied it. I was informed by this man that the mode adopted by the quarriers in search of stone, and which led to the discovery of these bones, was as follows. They sink a shaft from the surface to the upper stratum of stone above the "dirt bed", and then carry the excavation horizontally until they come to a "gully", as it is termed, which is indicated by a difference in the stratification; the "rubble" in such spots being interrupted by a conical space filled up with the material loosely thrown together as though by artificial means, or as drifted in from the surface. The "gully" is always found to extend to the depth of many feet into the subjacent beds of stone, forming large crevices or vertical spaces that offer a natural separation by which the quarrier is enabled to

* All these skulls are now deposited in the Museum of the Anthropological Society of London. [EDITOR.]

detach blocks of stone without the necessity of blasting it. In these "gulleys" they have occasionally found human bones and animals promiscuously mingled together, and it was from one of such that the bones in question were procured. The frontal bone presents indications of great antiquity; it is very thick in structure; the frontal sinus of unusual prominence, and the whole organisation must be pronounced to be of a singularly low type, approaching to the lowest forms of Negro development. I do not hesitate to assign it to an individual of a *Pre-Celtic race*.

I have no further remarks to offer; I shall be happy if such as I have made should awaken any interest in these ancient relics.

I beg to remain, my dear Sir, very truly yours,

T. W. SMART, M.D.

To the Editor of the *Anthropological Review*.

Phrenology. We have received a letter from Mr. T. Symes Prideaux respecting a recent article on this subject in a contemporary. The following extract from Mr. Prideaux' letter will serve as an introduction to this communication:—

"In sending you the accompanying rejected communication, a few words of explanation seem necessary. At the outset of reading the curious production signed 'Ethnicus,' I imagined I had before me a burlesque, a piece of ironical satire or ignorant criticism; it at length dawned upon me that it was really a *bond fide* specimen of dulness unsurpassable of its class. Nothing, however, was further from my thoughts than taking any notice of it; in fact, it seemed to me by far too ridiculous and contemptible to deserve any reply. Before many days had elapsed, however, I was reminded that I had, in the first number, stood sponsor for the *ability and impartiality* with which this periodical should be conducted."

Mr. Prideaux' communication was consequently declined. This seems to be so subversive of all rules of fair play that, contrary to our usual practice, we feel it our duty to give Mr. Prideaux' letter insertion in our columns. The following is Mr. Prideaux' communication to our contemporary printed at length.

"Your last number contains a short article, entitled 'Phrenology, what is it?' by 'Ethnicus,' which I am sorry to see admitted to a place in its pages, the production being such a mere farrago of crude undigested notions, misconception, misstatement and twaddle as to be altogether undeserving of notice in a scientific point of view.

"The writer appears to labour under the delusion that his ideas of what might, could, would, should, or ought to be the arrangements of nature, are to be accepted in preference to the answers obtained by the more troublesome and roundabout method of interrogating her by reiterated observations. One hardly knows whether to be more astonished at the complacent presumption or the want of perception of causation and logical dependency indicated by such a frame of mind. A man of the highest original genius, Dr. Gall, whose mental fabric, both intellectually and morally, was on a scale of strength and grandeur far surpassing that of average mortals—

the founder of the anatomy of the brain—an observer by instinct, and one of the most industrious, patient, cautious, and conscientious of observers, after long years of study and investigation, came to the conclusion that there *was* a connection between the appearance of the eyes and the talent for philology. ‘Ethnicus,’ however—give ear, all people!!—for reasons which he does not vouchsafe, or possibly for none at all, *does not think it probable* that the ability to acquire languages should have any relationship with (what he is pleased to term) goggle-eyes.

“I remember, as a schoolboy, a story in *Murray’s Reader*, entitled ‘Eyes and no eyes, or the art of seeing,’ designed to impress children with the value of observing, which I have since many times thought a large portion of the grown-up world might study with advantage. Now, the *ipse dixit* of the adult Mr. No-eyes, as to what exists and what is probable, is simply a repetition of what he has been told and taught, and consequently, oftentimes, of the errors and prejudices of his teachers and associates. For him there is no progress, and were the world solely made up of these amiable conservatives, thought would stagnate, and opinion, reduced to one dead level, lose all vitality. There are persons so obtuse as to pronounce that the flint implements of the drift bear no impress of the hand of man. Others, again, who decide that it is so unlikely, if not impossible, that rocks many thousands of feet above the level of the sea should ever have been submerged, that they prefer, as the more probable alternative, to regard the fossil shells and fish they contain as freaks of nature—mere experimental productions!—rather than to admit that they have ever had any living existence as denizens of the ocean. Such cases are doubtless often curious, as showing that considerable cleverness in the ordinary practical details and business of life may coexist with the reasoning powers and judgment in so rudimentary a state as to present the rigidity of a petrification to new ideas conflicting with early prejudices, but we do not find that these conjectural philosophers, however self-satisfied of their own infallibility, carry much weight with the public at large, who fortunately have a laudable appetite for facts.

“Phrenology is alleged by its disciples to be established by the fact that there is an invariable connection between function and development, and can only be disproved by counter facts refuting this position. Instead, then, of favouring us with his suppositions and opinions, let ‘Ethnicus’ produce one single portrait of a great lexicographer with small sunken eyes, or in other words, without the *indications* described by Dr. Gall as invariably attendant on the large development of the convolutions seated in the middle and posterior portion of the roof of the orbit (constituting, I presume, the ‘goggle-eyes’ with which ‘Ethnicus’ makes merry), and he will have established a claim to respectful attention which all the witty verbiage in the world employed in expounding his own or other people’s speculative notions of the probable in nature—or what they think *may* or *ought* to be—will not confer. The statement of the traveller that water became solid during the cold of winter in the land of his birth

was rejected as utterly improbable by the king of Siam; and the old woman who regarded her son's account of flying fish as an impudent attempt to impose on her home-bred simplicity, readily swallowed his story of having fished up in the Red Sea one of the wheels of Pharaoh's chariot attached to the fluke of his anchor. To offer opinions as a reply to facts, mere conjectural suppositions as an answer to arguments founded on observation, is to trifle with the time and trespass on the patience of the public, and betray at the same time the unscientific character of the mind of the offender. 'Ethnicus' sadly wanted a friend at his elbow to have impressed upon him the grand aphorism with which Bacon opens the greatest of his works—*'Homo naturæ minister et interpres tantum facit et intelligit, quantum de naturæ ordine, re vel mente observaverit; nec amplius scit aut potest.'*

"My own conviction, I do not hesitate to say *knowledge*, of the truth of phrenology is based on observation, prosecuted throughout my life from the age of fifteen; and, having full reliance in the armour of truth, I fear not to throw down my glove and offer to break a lance in its defence with any antagonist who shall enter the lists in a philosophic spirit armed with facts, but I altogether decline to waste my time in dissecting a heap of rubbish, the only palpable fact about which is that the chiffonier who raked it together knew nothing of the value of the materials.

"T. SYMES PRIDEAUX."

Popular Lectures on Anthropology. We are authorised to announce that several anthropologists in this country have united in the determination to give lectures on the Science of Man to the various institutions throughout the country. It is not intended at present to issue any prospectus, but communications from Secretaries of Mechanics' Institutions, Natural History, and Philosophical Societies will receive immediate attention, if addressed "Secretary of the Anthropological Lecturing Club, 4, St. Martin's Place, W.C."—Gentlemen willing to unite in this object are also requested to communicate by letter, as above.

Anthropological Society. The first meeting of this Society will be held on November 14th, when Mr. Blake will give an official account of the rejection of anthropology by the British Association. Dr. Hunt and Mr. Ralph Tate will describe their recent explorations in the Zetland Islands. On December 5th Dr. Charnock's paper on Cannibalism will be read, followed by short papers by Mr. Bollaert, Mr. H. G. Atkinson, Dr. John Shortt, and Dr. Hyde Clarke. The next meeting will be on December 19th, when it is expected the Rev. Dunbar Heath's paper on the Anthropoid Origin of European Races will be read. The anniversary meeting will take place at four o'clock, on Tuesday, January 2nd. At six o'clock, on the same day, the Fellows of the Society and their friends will dine together at St. James's Hall. Tickets, 25s. each, may be obtained on application to Mr. C. C. Blake, 4, St. Martin's Place, W.C.

The first session of the Anthropological Society of Spain will begin some time this month.

An active movement is at length on foot amongst archaeological students in connection with the ante-Columbian period of American

history. Some gentlemen interested in the subject in Paris a considerable time ago formed a *Comité d'Archéologie Américaine de France*, and in the month of August visited London with a view of conferring with English students upon the contrivance of some similar institution in London. Under the presidency of Dr. Martin de Moussy, and the vice-presidency of W. Bollaert, Esq., a meeting was held at 9, York Place, Baker Street, on the evening of the 17th of August. Among the gentlemen present were M. Charles de Labarthe, Secretary M. Léon de Rosny, Mr. Burke, the Rev. W. G. Cookeley, Mr. Trübner, Mr. Kenneth R. H. Mackenzie, and MM. Camille, Edward, Defleuve Blanc, etc. The presence of three Japanese gentlemen added to the interest of the meeting. After an opening address from the President explaining the objects of the conference, Mr. Bollaert replied on behalf of the English gentlemen present. He expressed himself in terms of warm approbation, on the activity displayed by the anthropologists and archæologists of France in the promotion of the allied sciences now placed under the first term, and urged several precedents for the establishment of some species of organisation for the special study of ante-Columbian archæology. He also alluded to the labours of Baron Humboldt and of MM. Brasseur de Bourbourg, Aubin, and other French archæologists to whom the science was so much indebted. In the name of English archæologists, he begged to convey their thanks to the French gentlemen who had undertaken this journey. M. de Labarthe read a paper on the method of study pursued in the *Comité*, upon which M. de Rosny, in an eloquent speech, commented at considerable length. After a few words from Mr. Trübner, Mr. Burke said that he regretted in the special subject of American archæology to have so little to show. He had foreseen some seventeen years since, the immense importance that American questions would assume, and he was glad to see in that meeting a fulfilment of his prophecy. He urged upon the consideration of the meeting that a remote civilisation coming from Europe might have had considerable influence in the construction of the gigantic Peruvian walls, and cited other facts inferentially pointing to these conclusions. An animated discussion then took place, in which M. de Rosny, Mr. Mackenzie, and Mr. Bollaert took part. Mr. Mackenzie pointed to the possible probability of the autochthonous races of America having been subjected to influences from Ava and Polynesia, adducing some striking similarities in customs and worships. Mr. Bollaert said: Believing in the polygenistic theory, he was decidedly opposed to the theory of a peopling of the New World from the Old. All that the Peruvians had done was done by themselves. All that was found there, was peculiar to themselves. He had with his own eyes examined these remains and could not agree that there were traces of foreign influence. The man of the New World is entirely *sui generis*; in fact, an entirely distinct species. Mr. Trübner read a paper by Mr. Catlin, on some singular Religious Ceremonies observed among the Mandan tribe of Red Skins; and after some further discussion the meeting concluded.

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